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THE BRICKBVILDER

VOLUME XXV JULY, 1916 NUMBER 7

The Planning of Trade and Industrial School Buildings.

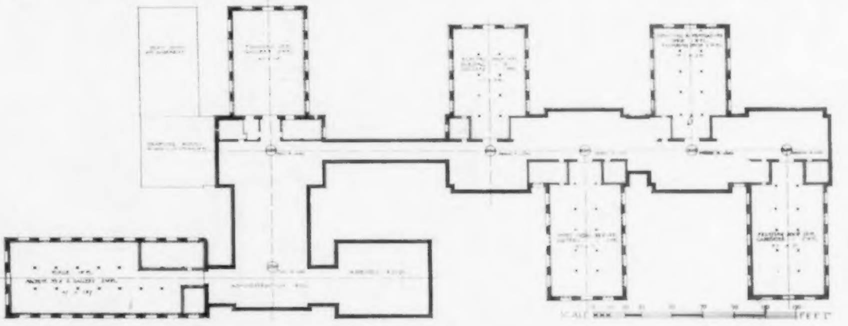
By LEWIS GUSTAFSON.

Superintendent of The David Ranken, Jr., School of Mechanical Trades, St. Louis, Mo.

II. DESCRIPTION OF IMPORTANT SCHOOLS (Concluding Paper).

THE preceding paper indicated the characteristic features of the modern trade school and suggested ways of designing such buildings that would make them most nearly meet the requirements of this branch of education. In the present paper a group of schools that have been built in recent years are given detailed consideration, in the attempt to show the gradual formation of definite principles relating to the housing of these institutions and how they have been put into practice.

THE SCHOOL OF APPLIED INDUSTRIES in Pittsburgh forms part of the Carnegie Institute of Technology founded by Mr. Andrew Carnegie, and the building here presented in diagram is the first of the twelve buildings on the Institute Campus. Blessed with ample grounds and extensive funds, this school was able to spread out. Its large shops, some 30 feet high, lighted on three sides and staggered to secure the maximum of light and air, are the most spacious school shops in the country. Connecting with them and not indicated in the diagram are storerooms and class rooms, while in the central administrative unit are the offices, the bookstore, class rooms, lecture hall, etc. The close resemblance which several of the other plans presented herewith bear to this school in their general scheme is not accidental. The Carnegie School was the first of the lot in point of time, being completed in 1905, and has served as a useful exemplar for those which followed, thanks to the courtesy of Director Arthur A. Hamerschlag, Dean Clifford B. Connelley, and Mr. Arthur L. Williston, now principal of Wentworth Institute, Boston. These gentlemen formed the expert advisory committee of three to formulate the general



Floor Plan, School of Applied Industries, Pittsburgh, Pa.

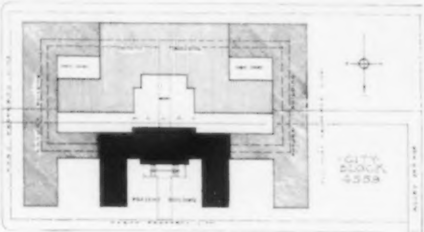
School of Applied Industries, Carnegie Institute of Technology, Pittsburgh, Pa.

Palmer & Hornbostel, Architects

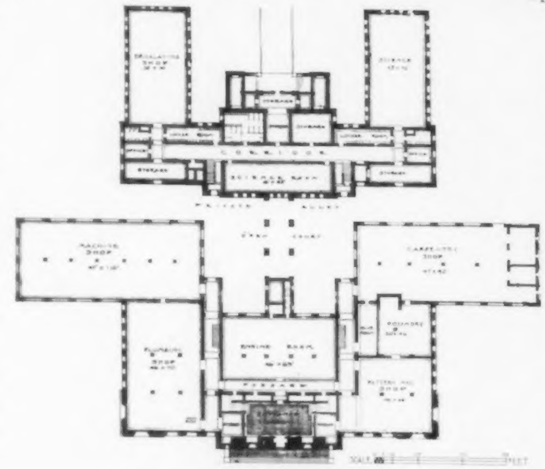
scheme for the Institute and have always been generous in their gifts of time and advice to schoolmen and architects seeking suggestions for similar schools.

THE DAVID RANKEN, JR., SCHOOL OF MECHANICAL TRADES, in St. Louis, on the contrary, was restricted by Mr. Ranken, its founder, to a limited sum of money for its first building, it being Mr. Ranken's idea to begin experimentally in a small way and let the school expand gradually. The first building, facing Cook avenue, was designed in 1907, after a visit to Pittsburgh and following consultations with Messrs. Hamerschlag, Connelley, and Williston. The general resemblance of the shop wings to those at the Carnegie School is easily seen.

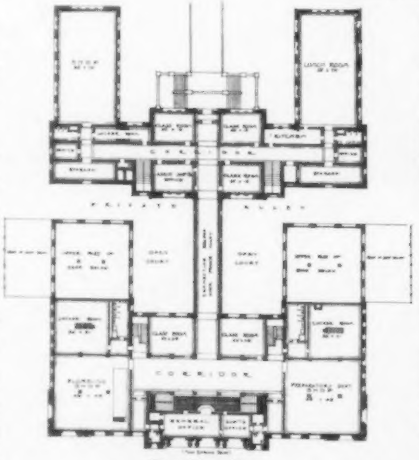
This building, conveniently arranged and thoroughly well lighted and ventilated, proved quite satisfactory for the first two or three years, but as the trade courses grew and the size of the work and the number of students increased, several of the shops (purposely made not overlarge) proved inadequate in size for the trades which they housed. To combine two shops for one purpose was of course not possible because no shop adjoined another, and to open up the shops back to the alley by absorbing locker room, toilet room, corridor, and storeroom was not feasible because all interior partitions were bearing walls of brick. It was found necessary, therefore, in 1912 to construct another building with larger shops for the bulkier trades, and to reserve the first building for trades whose work was not so large. For such purpose and as an experimental building for new trades this first structure will continue to serve admirably. The great value of the shops in this building lies in their being bare open spaces 35 by 70 feet in dimensions, with ceilings 14 feet high, to which are led water, gas, and electricity. The varied uses to which such rooms may be put will be made clear by a recital of the history of the west wing on the main floor. This shop served as an assembly room during 1909–10, the first year of the school, as a pattern shop from 1910 to 1913, as the first year machine shop from 1913 to 1915, as drafting room and shop for sheet metal pattern drafting during the winter 1915–16, and has now temporarily gone back to its original use as a place of assembly. For all these purposes, except as a machine shop, it has done well. It was abandoned as a pattern shop because it was found more convenient in handling lumber and in using the shavings exhaust to place the pattern-making in the new building adjoining the carpentry. As a machine shop it was only half large enough after its first year, and since it was found impracticable to have half the machine instruction on this floor and the other half on the floor below, both shops were combined in a larger room in the new building.



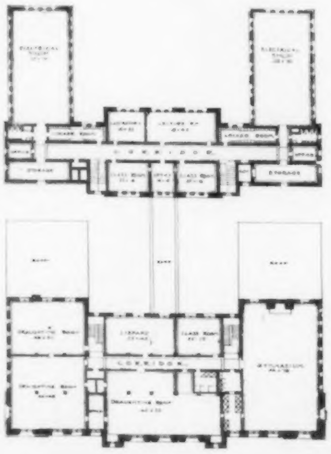
Block Plan



Ground Floor Plan

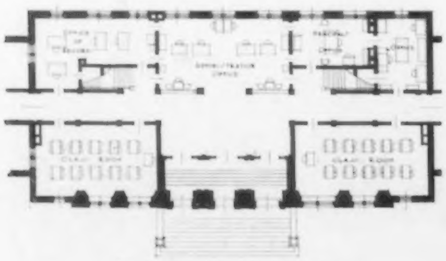


First Floor Plan

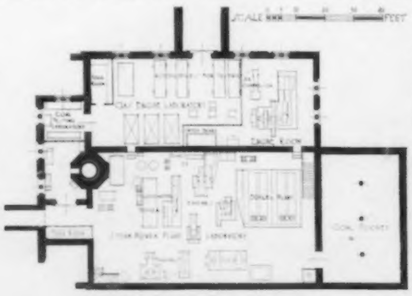


Second Floor Plan

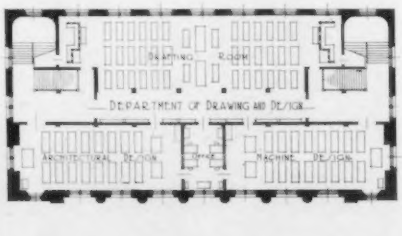
The David Ranken, Jr., School of Mechanical Trades, St. Louis, Mo.



First Floor Plan of Central Unit



Floor Plan of Power Plant



Second Floor Plan of Central Unit

Wentworth Institute, Boston, Mass.
Peabody & Stearns, Architects

This second building, opened in 1913, was designed to avoid the rigidity of the first. Except on the stairways and on the ground floor, where the shops, 47 feet wide and 76, 96, and 110 feet long, seem ample for future needs, all interior walls are of three and four inch hollow tile, allowing for almost unlimited alteration. Already two partitions on the top floor have been removed, one to enlarge a drafting room and the other to enlarge the library. No rooms, except offices and washrooms, contain attachments or fixtures or partitions that will prevent their being used for any other purpose. The gymnasium and the library are only bare rooms used temporarily for the purposes designated; as the institution grows they will be given over to other uses.

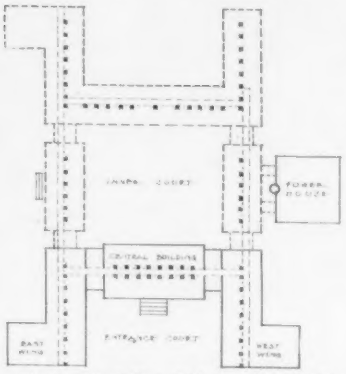


Fig. A. Block Plan of Wentworth Institute

The buildings of WENTWORTH INSTITUTE in Boston, endowed by Arioch Wentworth and opened in 1911, are worthy of careful study not only because they represent the results of Principal Williston's experience as Director of the School of Science and Technology at Pratt Institute and his investigations as one of the committee to establish the Carnegie Institute, but because they have had their influence on the second building of the Ranken School just described, and on the Milwaukee School and Pullman School to follow. As explained by Mr. Williston to the architects, six things were desirable: 1, All departments should resemble in appearance and general arrangement of equipment as closely as possible corresponding departments in commercial manufacturing plants; 2, the Institute should set a high standard in efficient use of floor space and in its plan for simple and direct travel of material and workers from sub-department to sub-department; 3, in order to control the entire student body a single entrance should be provided, close to the general office and in a central building, where pupils from all departments must enter and leave the school; 4, the principle of student control in 3 should be carried out in the design and arrangement of all sub-departments; 5, as some departments may grow faster than others it should be possible to provide more space for these without disarrangement of other departments or deranging the general plan in architectural effect; and 6, con-

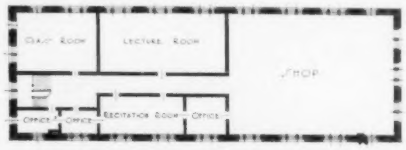


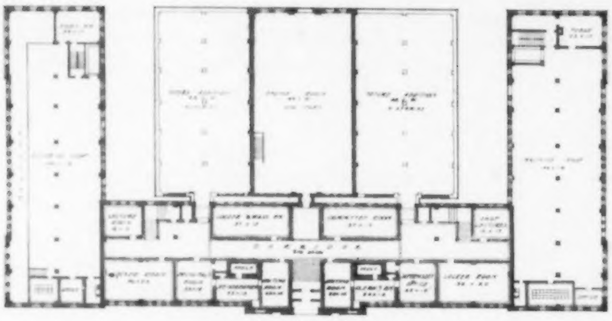
Fig. B. Typical Floor Plan of Standard Unit

Typical Floor Plan of East Wing

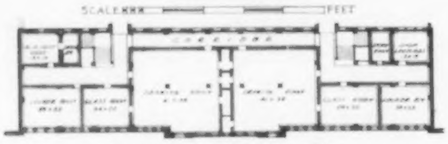
First Floor Plan of West Wing

Basement Floor Plan of West Wing

Wentworth Institute, Boston, Mass.
Peabody & Stearns, Architects



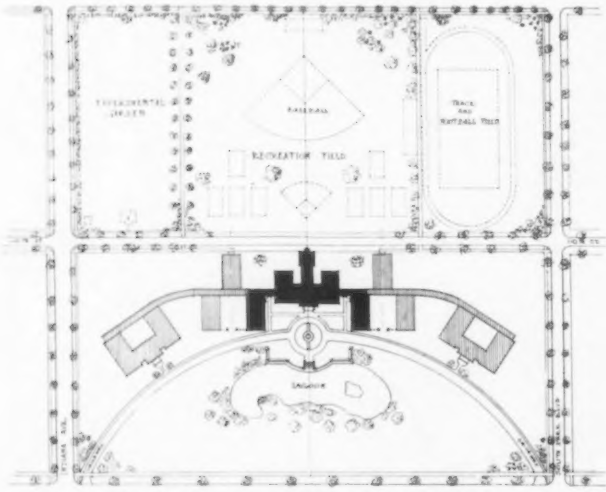
First Floor Plan



Central Part of Third Floor Plan

The Milwaukee Public School of Trades for Boys

W. W. Maxwell, Architect



Plot Plan of Pullman Free School of Manual Training

venient means of delivery of heavy material to shops and laboratories should be provided independent of main entrances and hallways. To meet these requirements there was adopted as a *standard unit* of construction a three and one-half story building, 48 feet wide by 144 feet long, divided into nine bays of 16 feet each. This floor space is divisible as shown in Figs. A and B. The whole width may be used for shops or laboratories, or a corridor 8 feet wide may be run on one side of the center row of columns, giving rooms 24 feet wide on one side for class rooms or lecture rooms, and 16 feet wide on the other for offices, instrument rooms, or washrooms. This allowance of nine 16-foot bays permits the entrance to any standard unit building to come at either end or in the center, or permits adding wings in domino fashion for an L shaped or U shaped or T shaped building. The central building has a width of 64 feet.

The Milwaukee Public School of Trades for Boys, supported by a special tax, shows in its extreme wings another application of this 48-foot width with nine equal 16-foot bays, and in its central portion the use of wide and narrow rooms each side of a central corridor. The general plan is restricted to the dimensions of a city block, that being all the ground available. The building is three stories high with a basement. The plans here given show the entire main floor and the central portion of the third floor. In the basement is the boiler room below the space indicated as engine room on the plan; a second plumbing shop is in the left wing for soil pipe work and a storeroom is under the machine shop. The second floor contains in the left wing a carpentry shop, similar to the shop for plumbing but with erecting space at the rear end 47 by 33 feet, and two stories high. In the right wing over the machine shop is the pattern shop. In the center part of this floor are the library and the exhibit room similar to the drawing rooms indicated on the third floor plans. The top floor in the left wing has a vacant room for a new trade and in the right wing an electrical shop. The wings indicated as flanking the engine room go up three stories, and above the first floor have light on two sides and at the end. No provision is made on these plans for a gymnasium, an assembly hall, or a science department, but any of the large spaces indicated could be

Typical Ground Floor Shop (Wood Working)

Typical Upper Floor Shop (Metal Working)

Pullman Free School of Manual Training, Pullman, Ill.

C. Frank Jobson, Architect

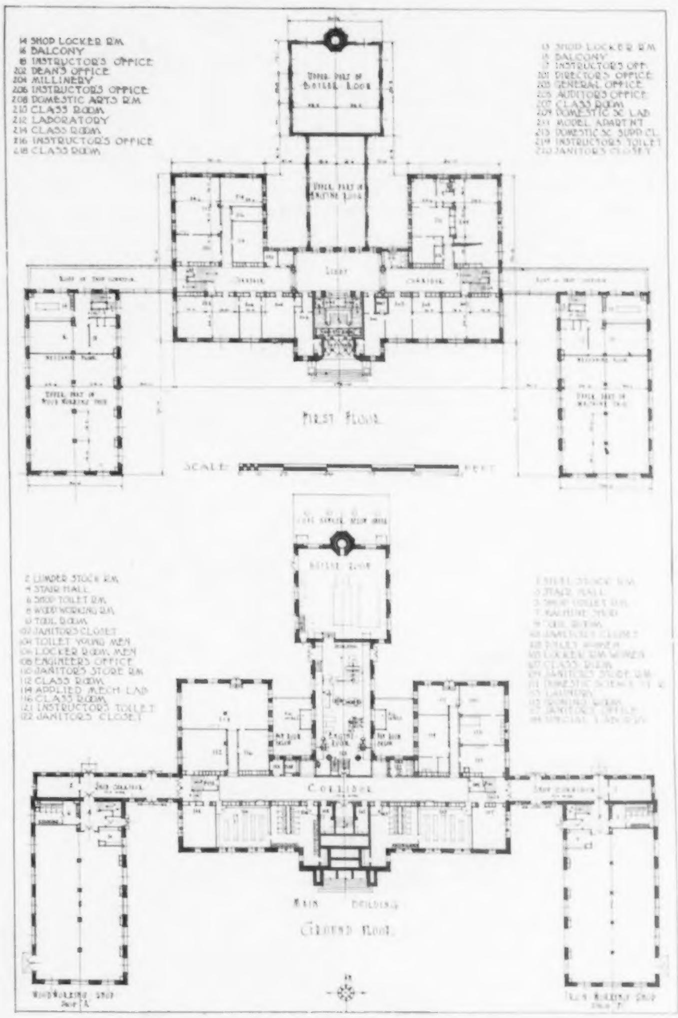
made available for any of the three (barring columns in the gymnasium) should the school find itself desirous of having them.

The Pullman Free School of Manual Training, endowed by George M. Pullman and opened in 1915, is the only institution shown which is co-educational. This school is fortunate in having an unusually large campus, giving room to grow and allowing for an attractive block plan. Although it is called a school of manual training, it is more on the order of an intensive technical high school designed to train for the industries.

As seen on the plans the shops are 48 feet in width and 80 feet long, the shop wings being in five bays of 16 feet. All shops are in effect two stories high. In connection with the shops is a convenient arrangement of instructor's office and class room on a mezzanine floor overlooking the working space. The boiler and engine room are intended for instructional use and are conveniently located in the central wing. The domestic science rooms contain a model flat for instructional purposes. In block plan the school resembles both Wentworth and Carnegie Institutes.

The Worcester Boys' Trade School, supported by a public tax, has a more generous provision of ground than the Milwaukee School. The general scheme provides for a combined administration and class room building along the front, this being five stories high in the central portion, with several shop wings extending to the rear. The part marked A was built in 1909; those marked B and C have been recently completed.

The arrangement of the first and second floors may be seen from the plans reproduced herewith. On the third floor the shop wing drops off, leaving the front part 60 feet deep with an auditorium in the center, class rooms at the left end, and a printing department at the right. This auditorium, about 58 by 88 feet, is provided with a stage and a moving picture booth. In the basement, on a line below the auditorium, is a gymnasium about 57 by 87 feet, and 20 feet high. The basement under the machine shop is divided lengthwise, with the power plant in the courtyard half and an electri-



Pullman Free School of Manual Training, Pullman, Ill.

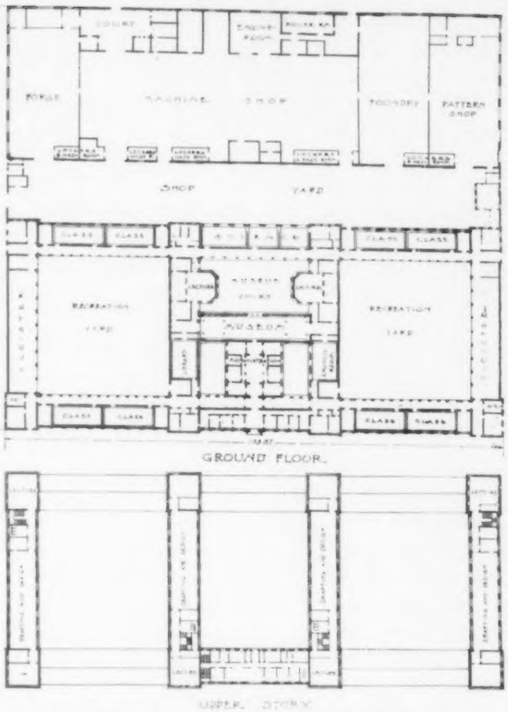
General Exterior View from Front
Pullman Free School of Manual Training, Pullman, Ill.
C. Frank Jobson, Architect

cal shop in the other half. These shops are extremely narrow, since the wing itself is only 42 feet wide. This width is satisfactory for a single shop but not so satisfactory for subdivision either lengthwise as here or crosswise as on the floor above, where it is necessary to pass through one shop to reach another. The 48 or 60 foot width used elsewhere is preferable.

The plans of L'Ecole Nationale D'Arts et Metiers de Paris are given as an interesting working out of the problem on a monumental scale. This school does not teach trades but gives a general mechanical preparation. The separate shop building is lighted from the sky and is a purely factory type of building. It contains no permanent interior walls; in fact, the partitions are only screens reaching part way to the ceiling. The court could be covered over, connecting this building with the main school, in which case it would present the idea as illustrated in the typical plan X, shown in the first paper of this article.

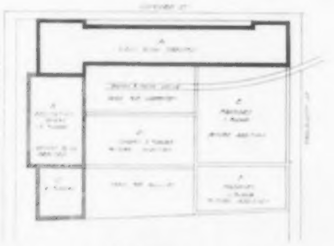
The Technical High School. This review of the subject would not be complete without reference, in passing, to the Carter H. Harrison Technical High School in Chicago. (See The Brickbvilder, March, 1916, for plans and photographs.) This school is an example of a new tendency in our public schools which marks the middle ground between the general high school with a manual training department and the out and out technical or trade school.

In Chicago a strong effort, rich in successful results, has been made not only to connect with the industries the manual training course for the regular high school pupils by making it more industrial in content and method, but also to render a distinct service to those already employed in the industries by offering them technical training. Schools like the Harrison will be largely multiplied in the next few years, for the reason that as public school boards feel the increasing demand for industrial education they will very properly look to the technical high school as one of the simplest logical means of meeting that demand for those who do not desire or need the closer specialization of the trade school.

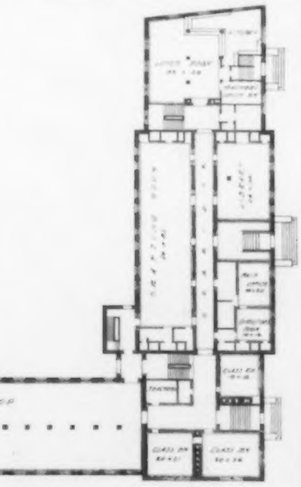
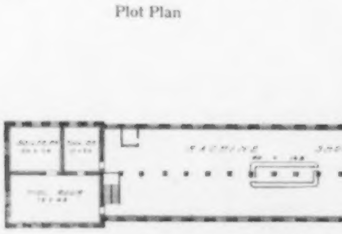


Plan of L'École Nationale D'Arts et Métiers, Paris, France

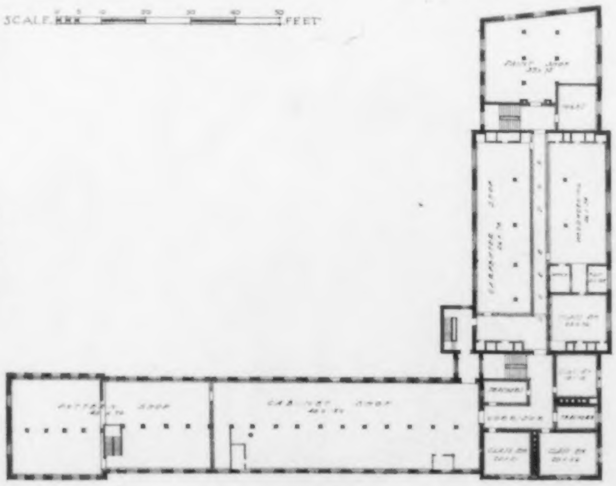
Exterior, Worcester Boys' Trade School, Worcester, Mass.



Plot Plan

First Floor Plan



Second Floor Plan

Worcester Boys' Trade School, Worcester, Mass.
L. W. Briggs Co., Architects

School Sanitation.

By HAROLD L. ALT.

THE sanitary work for a school building is, in general, divided into two distinct classes, viz., common toilet facilities and special school requirements.

Under the head of common toilet facilities we have the general toilet room arrangements, hot and cold water supply, gas, private toilets, and miscellaneous lavatories and sinks—equipment commonly installed in almost every structure—while under special requirements we have umbrella drains, chemistry, physics, and other laboratory service, kitchen and lunch room service, cooking class work, etc.

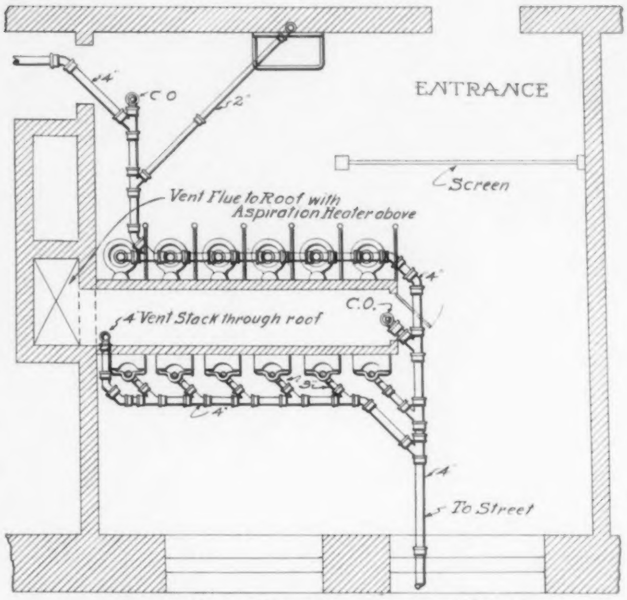


Fig. 1. Typical Plan of Boys' Basement Toilet

The general facilities must be modified to suit the exacting requirements of schools where common sense, ordinary care, and reasonable use of the fixtures *cannot* be expected. With the possible exception of railroad toilet rooms and public comfort stations, no plumbing fixtures suffer the abuse to which school fixtures are subjected; in the first two cases mentioned the presence of an attendant often is a great deterrent to excessive abuse, but the public school never uses any such safeguard.

School fixtures are made largely automatic, many performing their flushing and closing off functions complete without any special manipulation; others are arranged only to shut off automatically after being manually set in operation. Automatic fixtures are especially desirable for very small pupils and for schools serving a large foreign element.

The location and arrangement of the toilet rooms of a school is a subject of great importance. In general, the boys' and girls' toilet rooms should be located at opposite ends of the building or, if placed in the basement, adjacent, with a partition having a locked door dividing the corridor between the two rooms, and access should be obtained to each room from the floors above only by means of the stairway located on the side of the building where the rooms are respectively situated. In spite of the fact that the basement toilet occupies what would otherwise be waste space to a great extent, its location is not good and can hardly be considered in a school over two stories high. The general tendency to-day is toward boys' and girls' toilets, one at each end of the building, and on each and every floor.

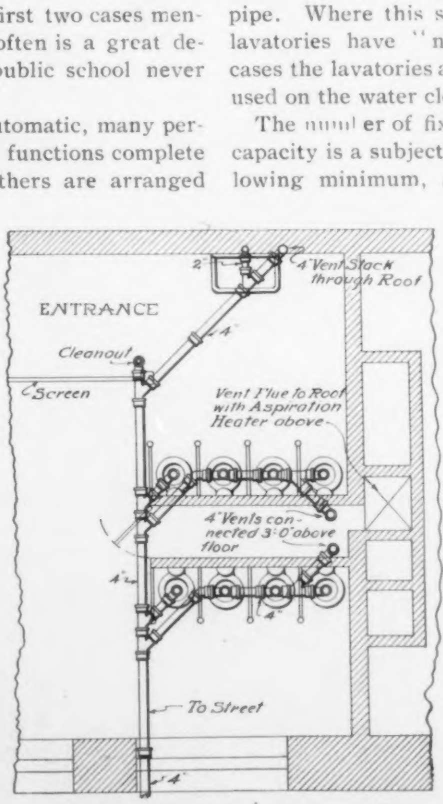


Fig. 2. Typical Plan of Girls' Basement Toilet

Placing these toilets directly over one another greatly diminishes the expense of piping and makes the room location easier to find than where the toilets are arranged strictly in regard to the requirements of room space on the particular floor where they may be located.

In piping toilets, considerable money can be saved by the use of "circuit" or "loop" venting in preference to the "continuous" or "back venting" system. This means each closet outlet, urinal trap, and lavatory trap is kept within three to five feet of the main soil or waste line and the end of the main line is carried through to the roof as a main vent or relief pipe. Where this system is followed out in *entirety*, the lavatories have "non-syphoning" traps, but in many cases the lavatories are back vented and the circuit system used on the water closets and urinals *only*.

The number of fixtures required for a school of given capacity is a subject always open for dispute, and the following minimum, average, and maximum number of fixtures per hundred pupils' capacity will give a good idea of what is being done in the new schools:

	Water Closets	Urinals	Lavatories	Fountains
Grammar Schools				
Minimum	6.03	1.57	1.82	1.09
Maximum	7.29	2.18	6.43	1.29
High Schools				
Minimum	2.95	1.47	2.92	.52
Maximum	5.33	2.19	10.22	4.66
Average	4.92	1.79	4.90	1.68

In the above, where trough urinals are used, two feet of length was considered as equal to a stall urinal when separate fixtures were used. It will be noted that some fixtures are slightly increased in number for the grammar schools which include kindergartens and very young pupils.

A typical basement toilet for boys is shown in Fig. 1 and for girls in Fig. 2, these being recently installed

in a new grammar school. The fixtures are local, vented into the pipe space between the two rows, and this pipe space is connected to a vent flue with a steam heater therein to create a draft. This method is fairly satisfactory, but cannot be compared to the use of a fan for *positively* exhausting the air. Note how the doorways and entrances are screened to prevent a view of the room being seen by the passersby in the corridor outside.

For a larger school still, using basement toilets, a layout such as is shown in Fig. 3 is good. The boys' room is similar, but has urinals substituted for water closets on one side of the vent space. The vent corridor is connected horizontally, either by an underground duct or one run across the ceiling, to a convenient location where a vertical flue can be run up to the roof.

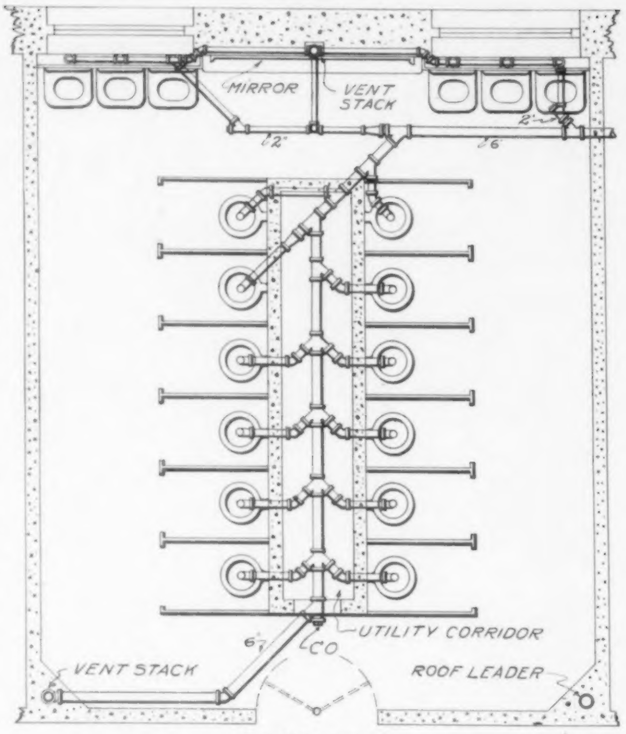


Fig. 3. Plan of Large Basement Toilet for Girls

There is little doubt that local vented fixtures are being generally adopted for school work. These fixtures consist of the automatic compression closet, or in high schools often a flush valve closet, with a raised vent connected to a vent space back of the fixture, as shown in Fig. 4. This vent space is connected to a flue operated by aspiration surface or a fan. For urinals, either an integral local vent is used, as also indicated in Fig. 4, at the upper LV, or by a branch from the waste pipe, as indicated at the lower LV; either, but not both, schemes may be used.

Sometimes to reduce the cost of purchasing local vented closets which are considerably more expensive than the ordinary syphon jet type, a register is placed in the partition directly back of the fixture, similar to the scheme shown in Fig. 5, these registers being about 6 by 6 inches, or 8 by 10 inches in size, and opening into a vent space the same as used for the local vent closets.

While the writer does not approve the use of trough urinals, where installed, for the sake of economy, the need for local ventilation is even greater than with the stall type shown in Fig. 4. This is easily accomplished by setting the inclined slab out from the back of the trough, as shown in Fig. 6, the air circulating across the trough and under the slab into the vent space in the rear, from which compartment it is exhausted to the outer air.

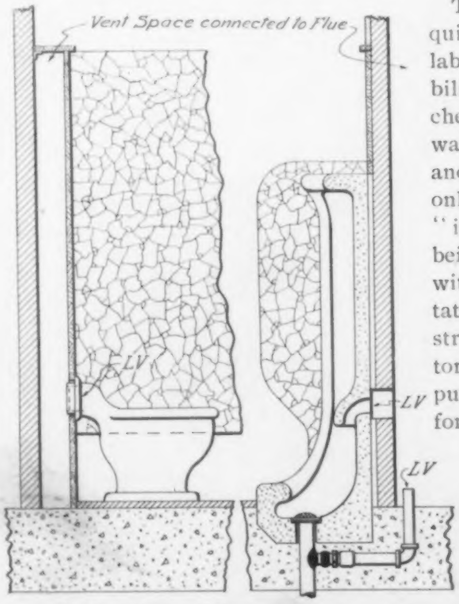


Fig. 4. Details of Venting Arrangements

All that has been said regarding fixtures in basement toilets applies equally well when the toilet rooms are placed on the upper floors, with the notable exception that when so located it is seldom possible to get a "utility corridor" back of the fixtures. Space is much more valuable on the upper floors than in the basement, and two feet additional for a pipe corridor back of the fixtures for each of two toilets means a loss of *four* feet somewhere in the class rooms located between the two. Moreover, the toilet room must have not only outside air, but also an entrance from the corridor. This produces a *long, narrow* room, and a pipe space of correspondingly greater length, thus further increasing the loss of space.

Generally the toilets on the upper floors develop into an arrangement something like the one given in Fig. 7, the length of this room being equal to the width of the class rooms and the width of the room equal to the depth of the water closet stalls plus a passageway in front of the stalls, which usually means a total of seven to eight feet.

It will be noted that there is a small private compartment shown in Fig. 7, containing a closet and lavatory, this being for use in case of sudden sickness. In the boys' room this space and that occupied by two water closet stalls are utilized for urinals.

The most exacting of the special requirements are those for chemistry laboratories where considerable flexibility should be contemplated. No chemistry instructor ever seems to want to teach in a room laid out by another instructor. In fact one claimed only recently that it was absolutely "impossible" to teach in the room being built from an arrangement made with great care and only after consultation with the previous chemistry instructor. So everything done was torn out and everything undone was put in — at the usual higher price paid for extras.

Most important in laboratory work is the providing of sufficient floor fill to accommodate the diversified piping and electric conduits. A case where such fill was not provided, resulting in much trouble is shown in Fig. 8 where

the pupils' table T and the instructor's table IT are ventilated by a duct VD connected to a space under the step S. The floor fill in this case was so small that gas G and water lines CW could not cross the lead lined waste branches W, and no pipes could cross the vent duct VD. Considerable ingenuity was necessary and numerous undesirable offsets were made in order to give the service at the points desired. At the right hand side of the sketch is an elevation showing the lead lined waste stack LL, the cast iron vent extension CI and the connection into the sewer line in the basement B. The wastes from the various sinks in the tables were all collected into a common lead waste running to a lead drum trap placed at the end of the table nearest the instructor's table. This lead drum trap discharged into the lead lined branch waste pipe LL, the continuation being shown on the elevation. Oftentimes these acid wastes are carried to a diluting tank in the basement where lime is used to neutralize the acid action.

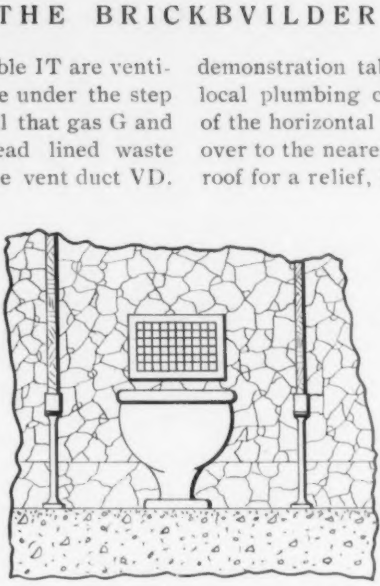


Fig. 5. Register Type of Vent

If possible all rooms having special piping should have a floor fill at least 6 inches deeper than the ordinary 3 to 3½ inches so as to properly conceal pipes and to allow the necessary grading of same. This is preferably obtained by dropping the rough floor construction rather than by raising the finished floor and thus producing an unexpected step.

In the wardrobes copper safes 6 to 8 inches wide and as long as the line of hooks above are sometimes provided to take the drip from the multitude of umbrellas brought in on a wet or snowy day. Unless this drip pan is provided with a waste pipe it becomes a receptacle for stagnant, dirty water into which coats or hats may be dropped. Besides this the falling of a steel pointed umbrella on to the copper is liable to puncture the thin gauge and make leaks on to the floor through the bottom of the trough.

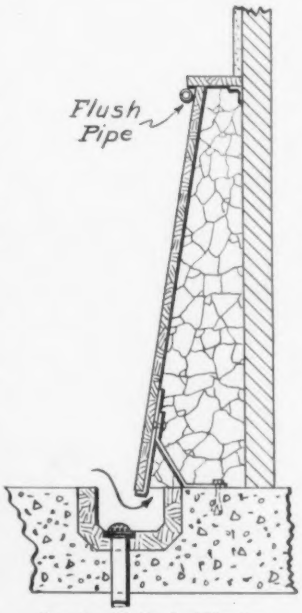


Fig. 6. Method of Venting Trough Urinal

A much better arrangement than this is a concrete gutter run completely around the wardrobe and connected to a waste pipe somewhat as shown in Fig. 9. This gutter is formed as part of the floor and will last as long as the building. It is essential that waste stacks so used be emptied into slop sinks and not connected directly to the sewer in order to avoid the dangers of sewer gas.

It is often very difficult to make proper plumbing connections to sinks located in demonstration tables set out into the room. Where the local plumbing code allows circuit venting the carrying of the horizontal waste under the floor, past the sink, and over to the nearest wall up which it extended through the roof for a relief, together with the use of a non-syphoning trap solve the problem but where continuous venting is required the solution is not so easy. In some cases permission can be obtained from the local authorities to drop the vent below the floor after rising above the fixture; in other cases circuit venting will be allowed as a substitute for continuous venting. Few authorities are encountered who are so absolutely ruthless in regard to appearances as to insist on carrying a 1½-inch vent pipe up in the middle of the room from the instructor's table to the ceiling.

In arranging cooking class sinks the same difficulty arises especially if the sinks are located in a counter running around the center of the room. The faucets, vent pipes and water lines not only complicate the counter construction but also obscure the pupils' vision of the instructor. In the best designed schools sinks are being plentifully located around the side walls at points where it is possible to install them, and the counters are kept unencumbered except for gas stoves at frequent intervals. This wall arrangement, of course, results in plumbing exactly similar to any ordinary kitchen sink.

It is a peculiarity of school sanitation that while drinking fountains are usually provided in abundance there is very seldom any provision made to supply the water in a cooled or desirable drinking condition. The favorite practice is to run a ½-inch or ⅜ inch branch from the nearest cold water line and connect this to the fountain with neither filtration nor cooling provided. While this makes the plumbing easy and simple to install the results are not at all what might be desired.

The simplest form of water cooling consists of the common water cooler tank in which ice is melted in the tank to produce the desired lower temperature. This is not suitable for school use because the purity of the water becomes dependent on the purity of the ice.

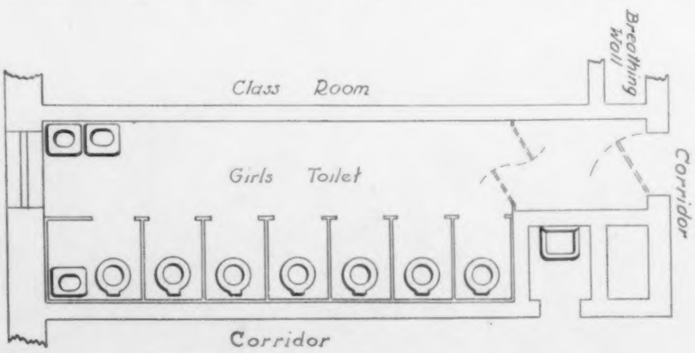


Fig. 7. Arrangement of Toilet on Upper Floor

As an improvement over this there is the tank which forms merely a receptacle for cracked ice and its melted water, together with a pipe coil through which the drinking water passes on its way to the faucet. In such a tank

dirty or impure ice may be used with impunity as there is no connection between the water in the coil and the water from the ice in the tank. The modified temperature is, of course, an advantage as water has been found to be most desirable for drinking purposes when about 50 degrees F. This scheme, however, is not desirable for schools as there is still the necessity of carting ice through the building while the coil is so small that it does not contain any reserve supply of cold water for a rush demand such as is likely to occur at a recess or lunch period.

If, however, all the drinking fountains are placed in the same relative position on each floor a small water pipe carried directly down to the basement from each group of fountains can be connected to a large coil of sufficient storage capacity for overload periods to properly meet the requirements.

To operate all drinking water from a central point some form of refrigeration and water circulation is required. Probably three-quarters of the refrigeration systems installed are of the ammonia type. The drinking water in a system of this kind must be circulated by a circulation pump so as to flow as continuously as possible to the various outlets. The outlets must be placed as near the circulating main as possible to avoid dead water in the pipe between the faucet or bubbler and the circulating main, and to avoid wastage in drawing this dead water off.

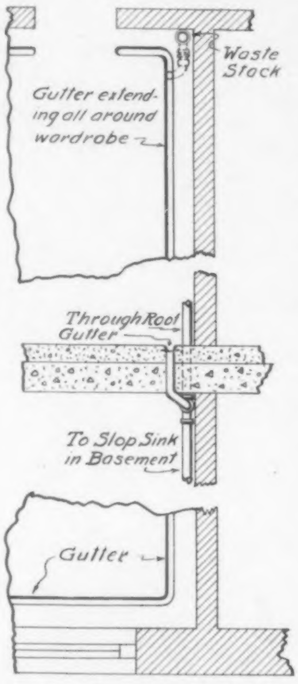


Fig. 9. Detail of Umbrella Drip Gutter

The fountains may be of the pedestal type which can be located upon the floor at any convenient point or of the type attached to the wall. In cases where single fountains are not sufficient to avoid undue expense the receptor type is generally used. This consists of a supply pipe running to bubblers which are opened by pressing down the hand wheel around the bubbler. The water from the outlets is caught in the receptor which resembles a common sink in every respect except the faucets.

It is difficult to understand why the waste from a school drinking fountain should be carried to a separate sink before entering the plumbing system as demanded in several localities, Pittsburgh, Pa., for instance. A drinking fountain trap connected direct to the plumbing system and properly vented introduces no more danger than drawing a glass of drinking water from the ordinary lavatory which is similarly connected.

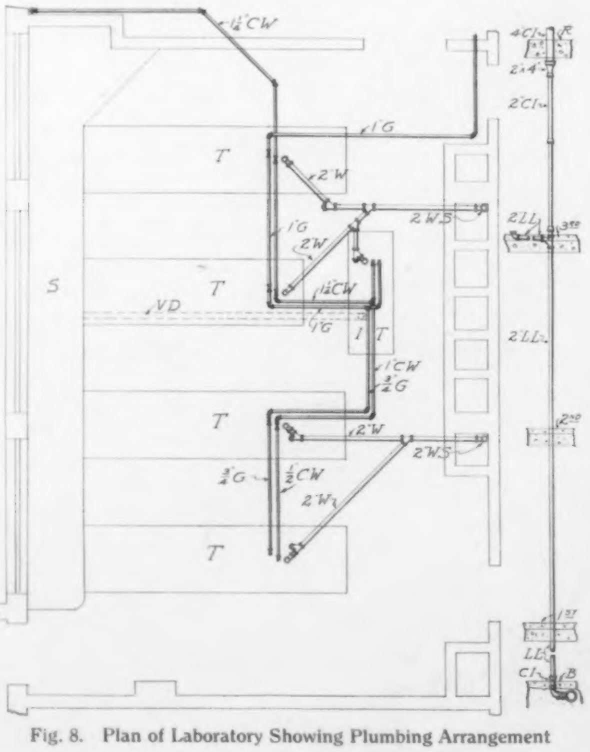
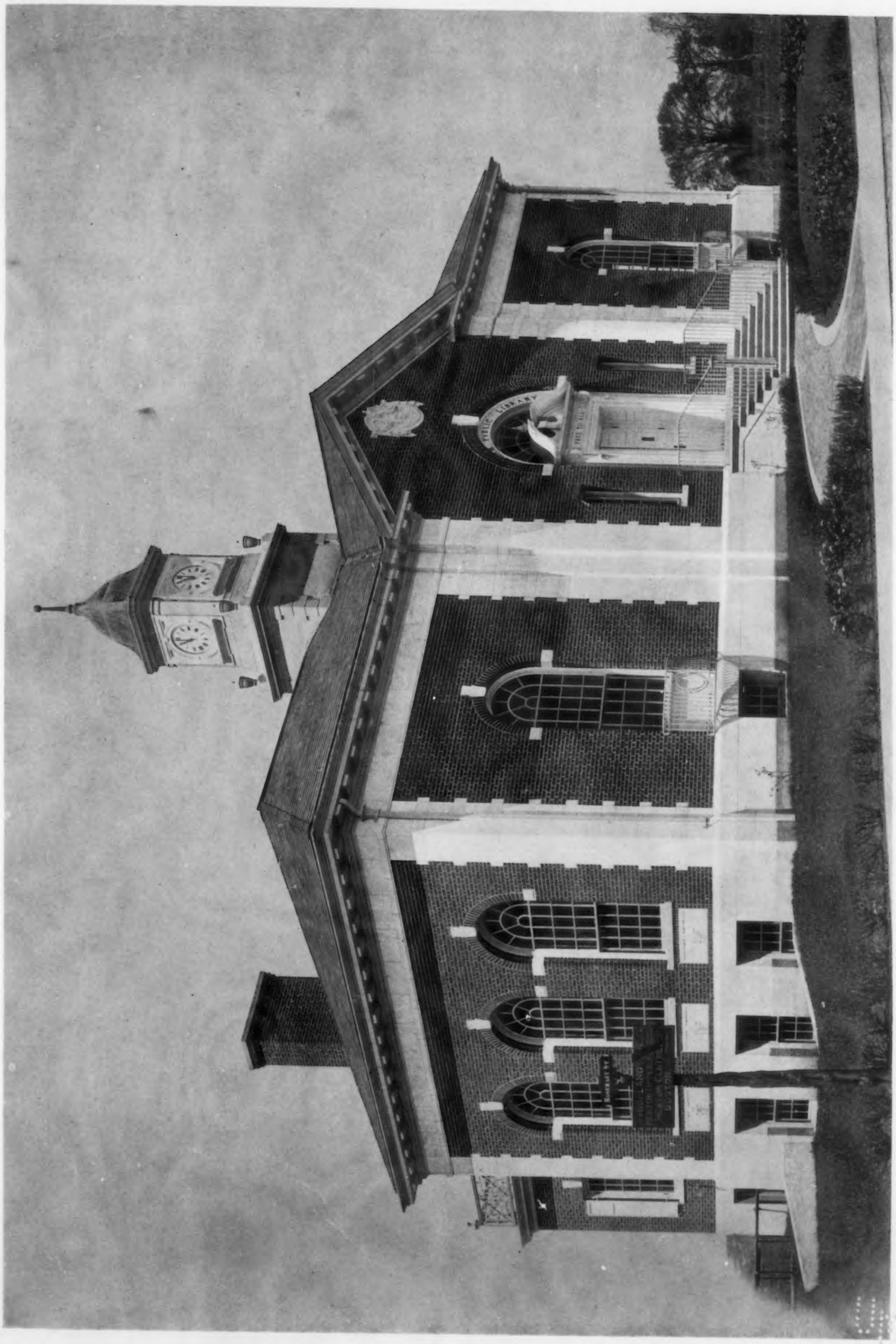


Fig. 8. Plan of Laboratory Showing Plumbing Arrangement

Where shower baths are used positive means should be taken to avoid scalding. The best method is to do away with the hot water supply to the shower heads entirely and substitute a warm water line from a thermostatically controlled regulator to which hot and cold water lines are connected; the cold water connection to the showers is left as usual. Thus the pupil can obtain any temperature from the cold water up to the warm water temperature, but not over this. The warm water regulator is usually set at about 100 degrees F. and to avoid any possible complication due to tampering or failure to operate a thermostat can be installed in the warm water line so as to shut off this line absolutely if the temperature ever rises to the scalding point.

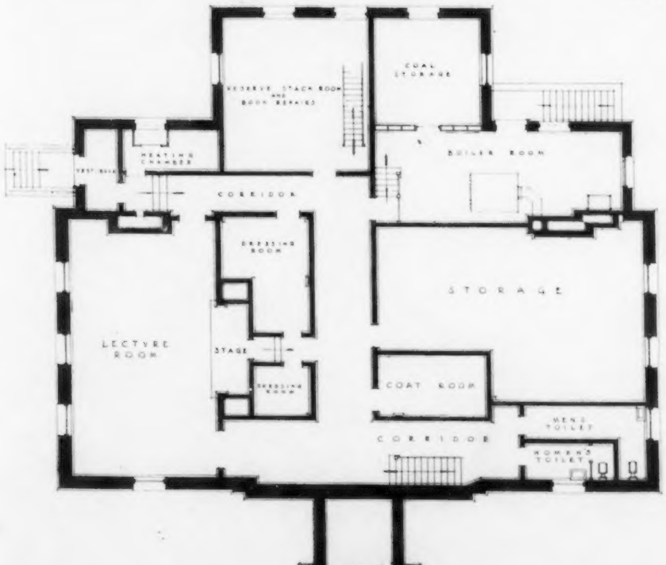
In biology rooms it has now grown to be the custom to have a small glass aquarium installed which is usually 24 to 30 inches wide, 36 to 54 inches long, and about 24 inches deep. Where such an aquarium is used it has been found a great convenience in changing the water to have water supply and waste connections provided. The water supply is most convenient when arranged with a special extended goose neck carried up and over one end of the aquarium with a stop cock such as is used on a common pantry sink. The waste connection may be either a standing waste (or a plug on a chain) the outlet being in the bottom of the tank; the standing waste is more serviceable as it provides an overflow connection and is easier to replace in the outlet if only part of the water is run off. If biology sinks are located nearby an easy method of disposing of the waste water in a sanitary manner consists of running the aquarium waste to the sink waste connecting thereto on the fixture side of the trap.

The foregoing covers the principal features of plumbing arrangements for schools and the methods cited are those which have been the result of much thought given to attaining practical and efficient installations. Although the improvement of recent years has been marked, it only indicates what can be done to perfect this work.



NEEDHAM PUBLIC LIBRARY, NEEDHAM, MASS.
JAMES H. RITCHIE, ARCHITECT

VIEW FROM REAR



BASEMENT FLOOR PLAN

FIRST FLOOR PLAN

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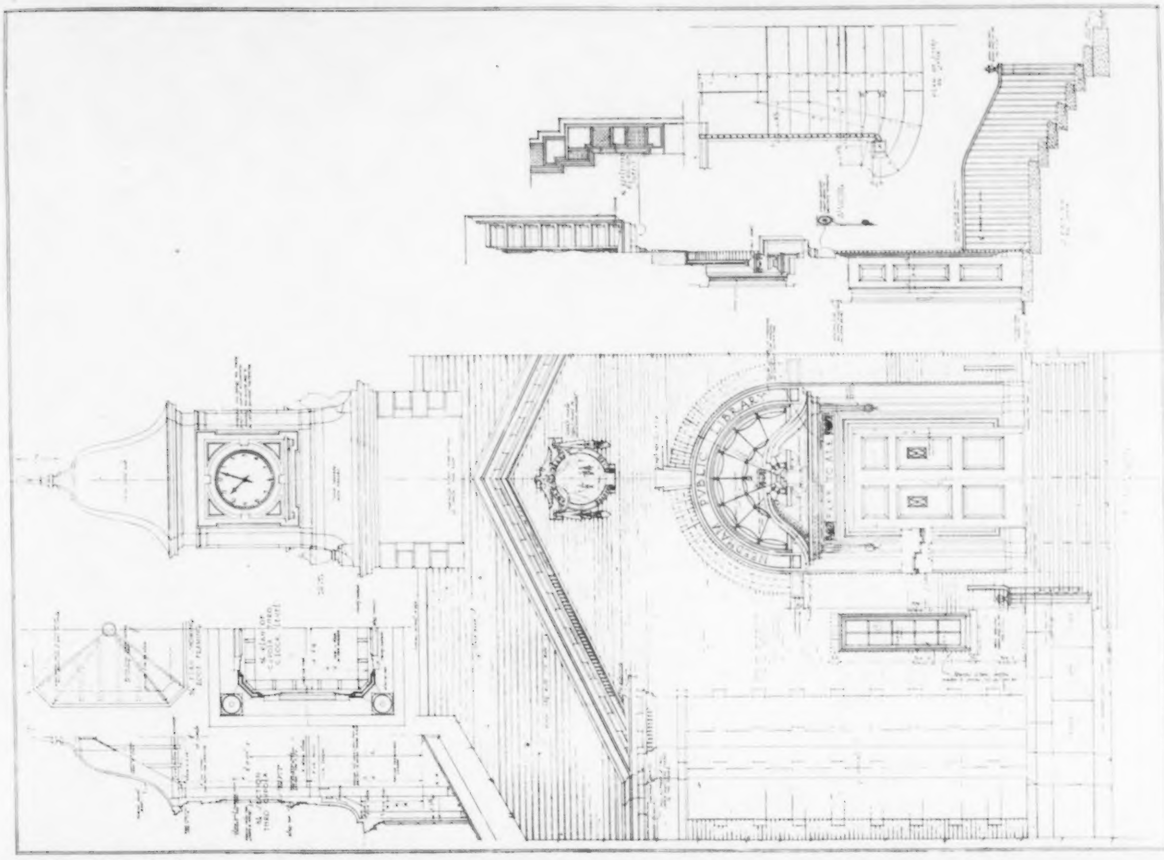
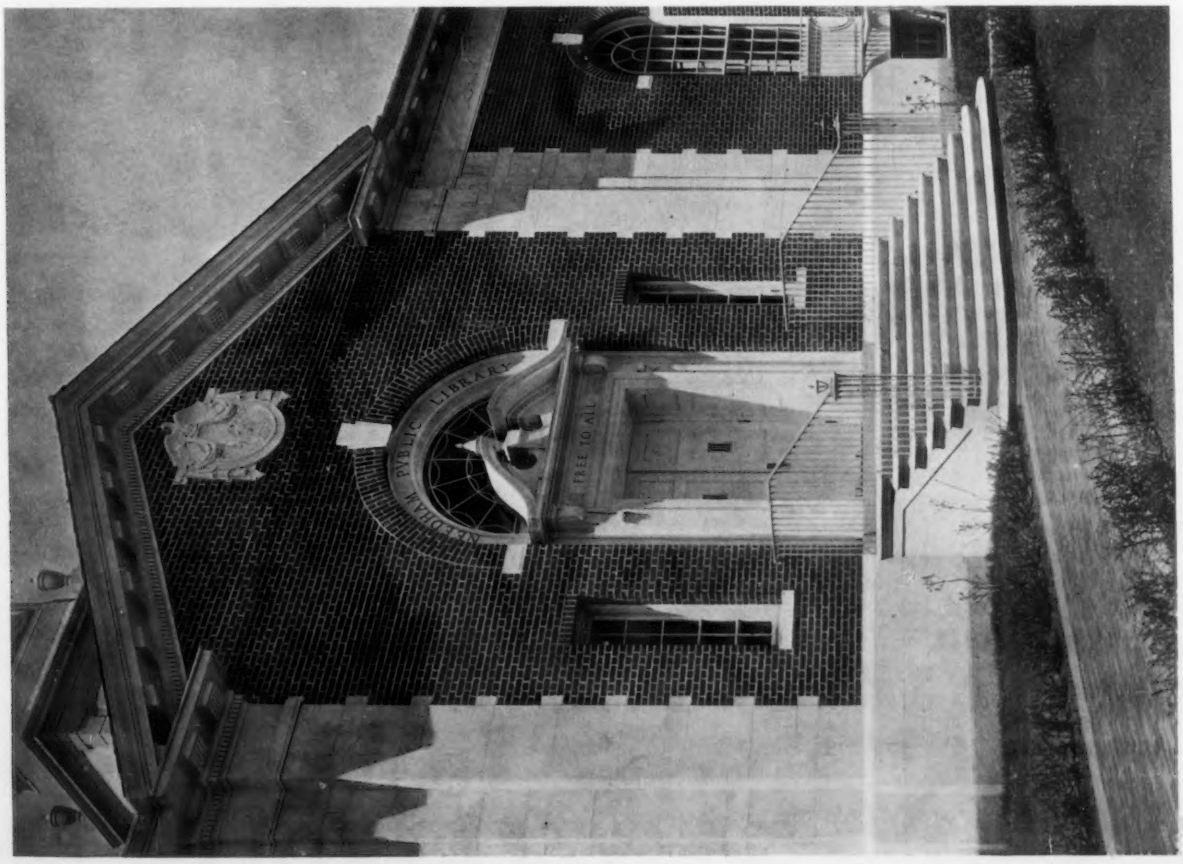
JAMES H. RITCHIE, ARCHITECT



DETAIL OF ENTRANCE AND CUPOLA



DETAIL OF ENTRANCE

NEEDHAM PUBLIC LIBRARY, NEEDHAM, MASS.

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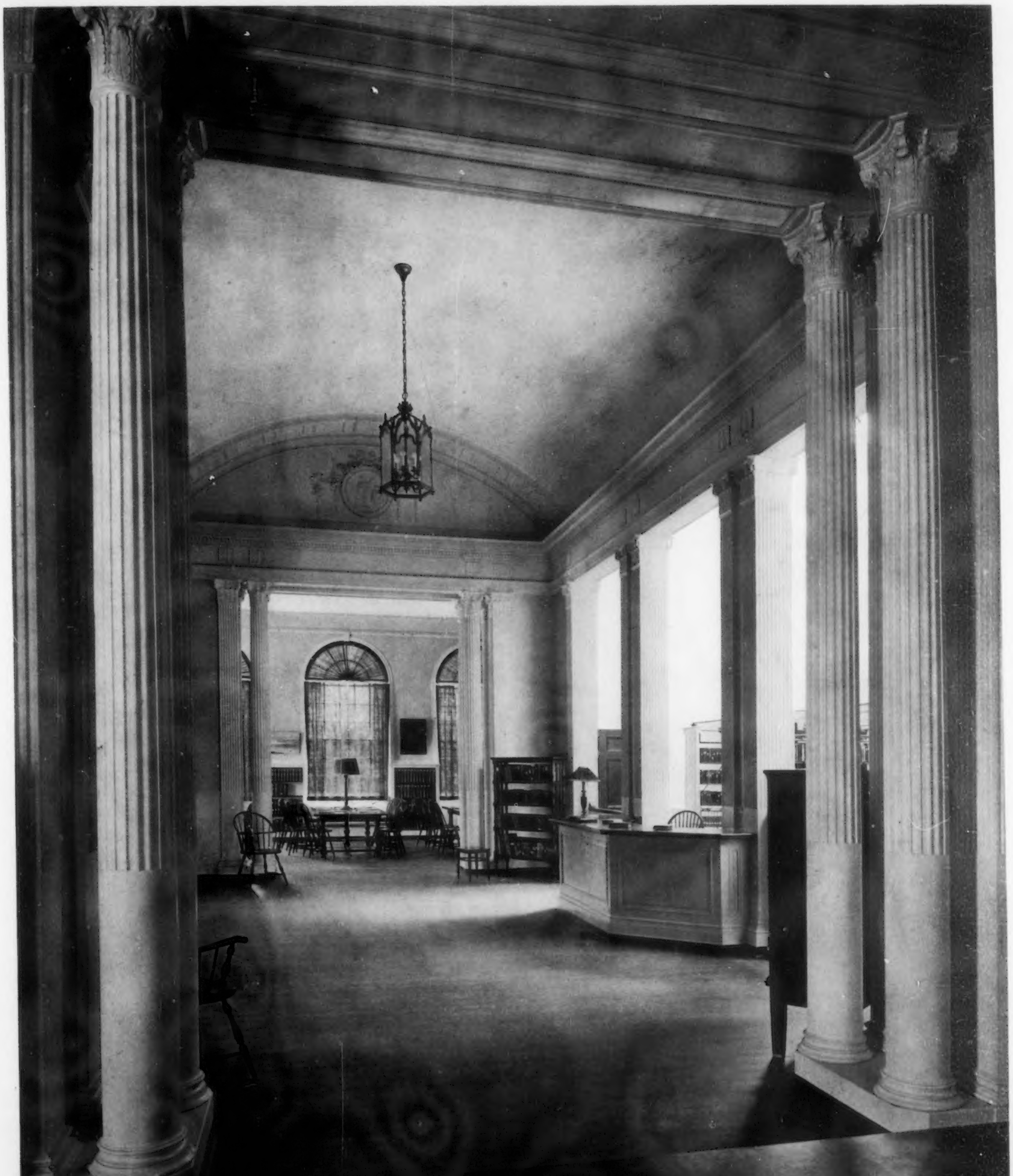

INTERIOR, LOOKING INTO DELIVERY ROOM

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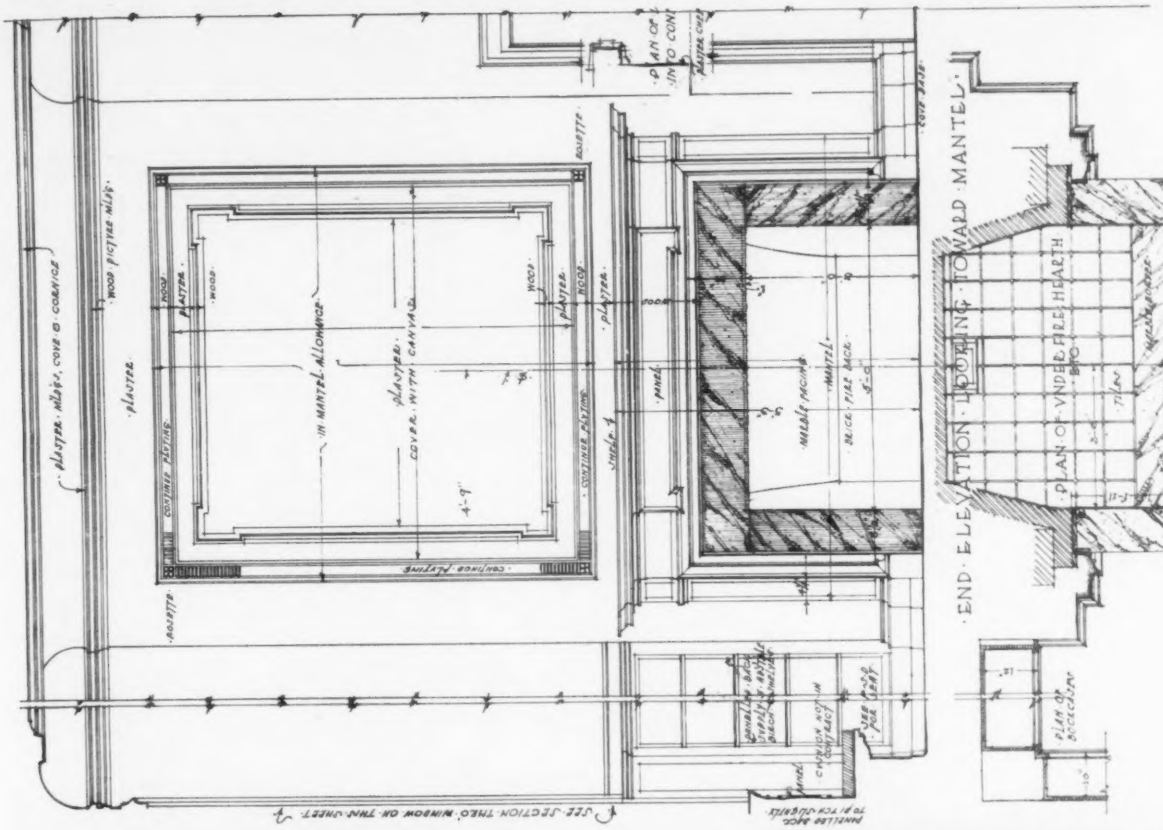

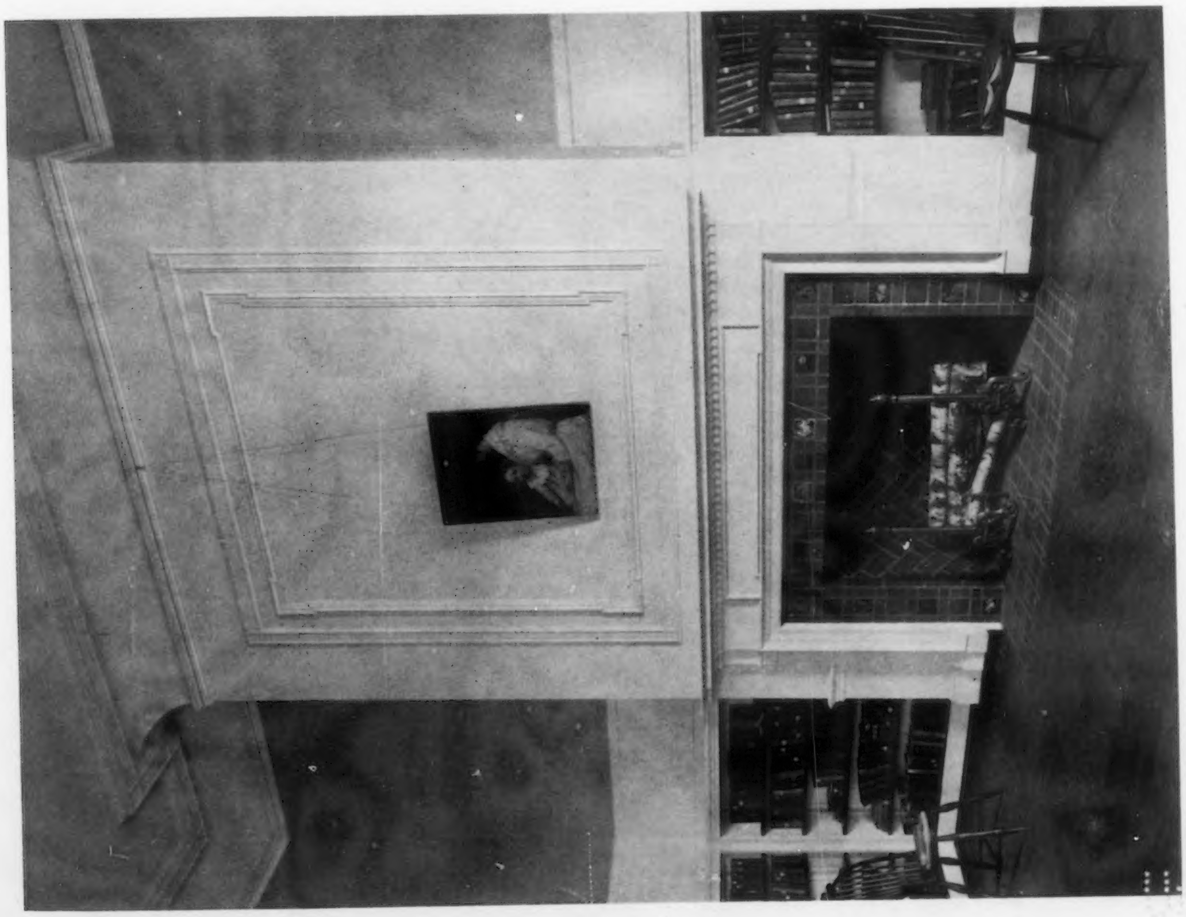

DETAILS OF MANTEL IN CHILDREN'S ROOM

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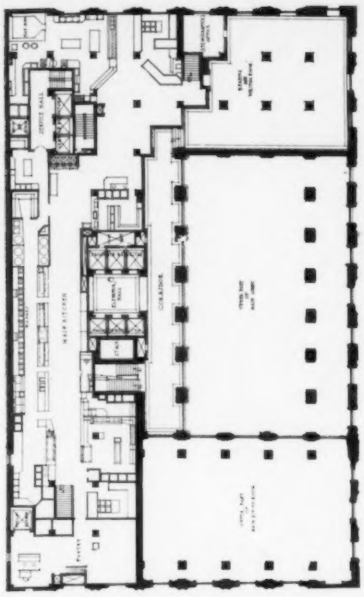
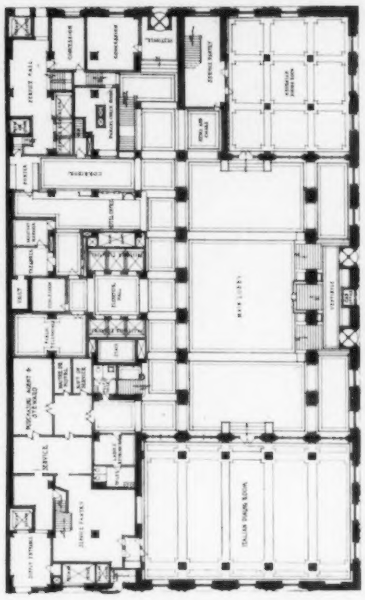
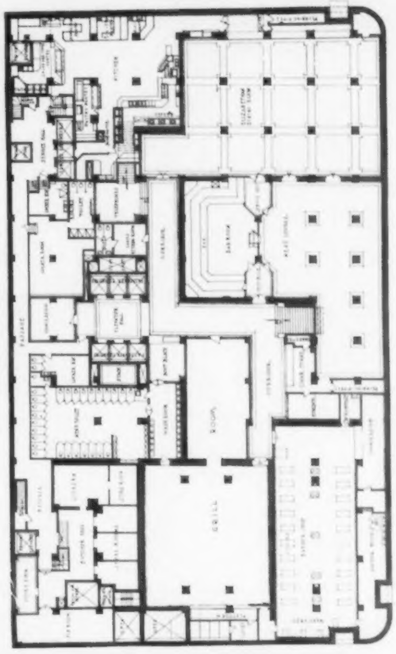
JAMES H. RITCHIE, ARCHITECT



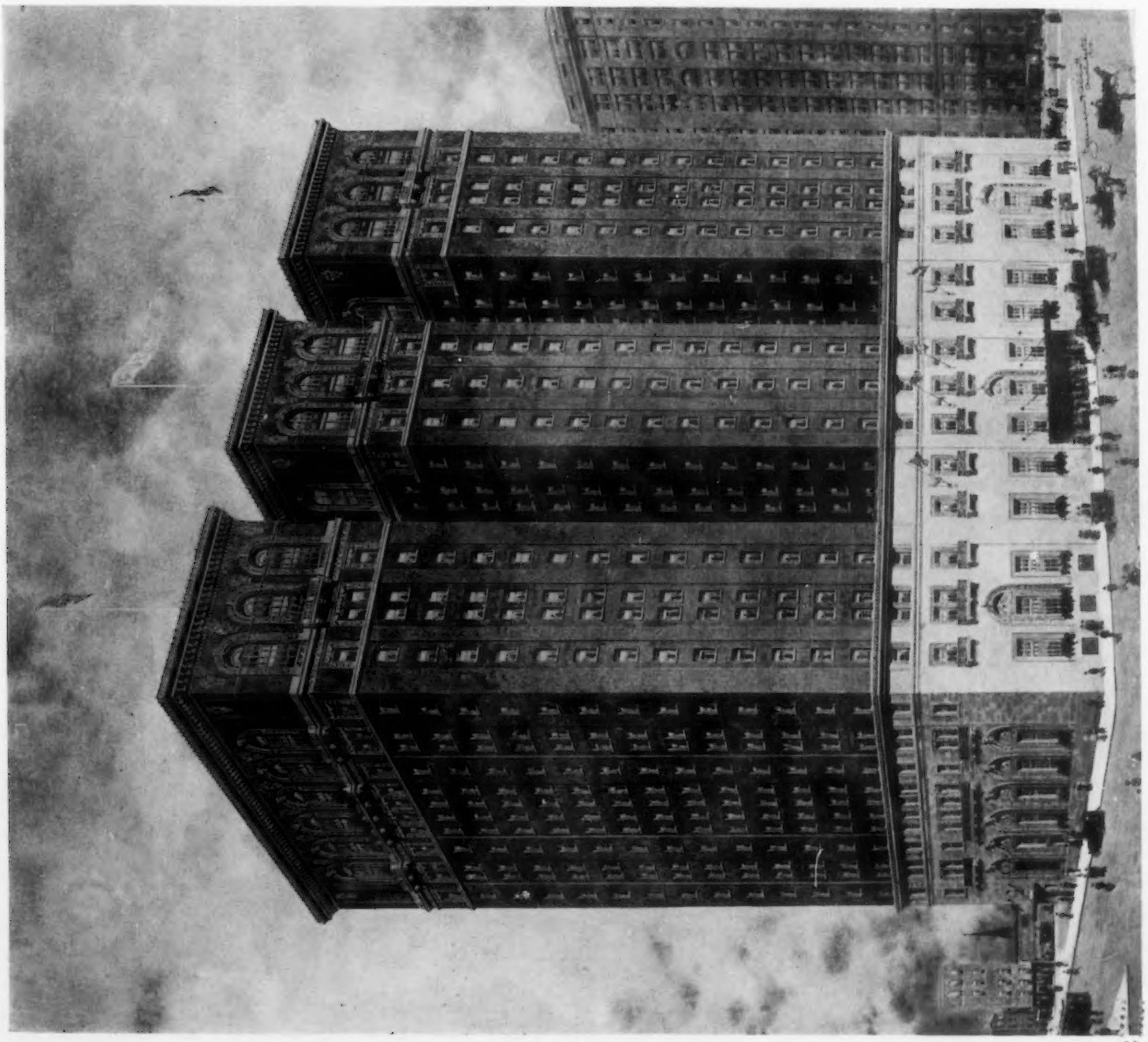
MEZZANINE FLOOR PLAN



LOBBY FLOOR PLAN



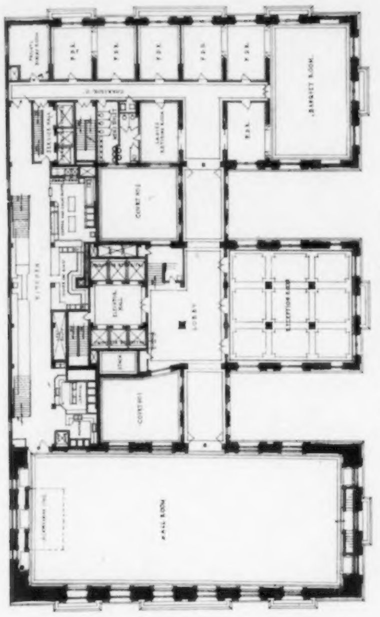
BASEMENT FLOOR PLAN



PERSPECTIVE DRAWING

WILLIAM PENN HOTEL, PITTSBURGH, PA.

JANSSEN & ABBOTT, ARCHITECTS



BALLROOM FLOOR PLAN

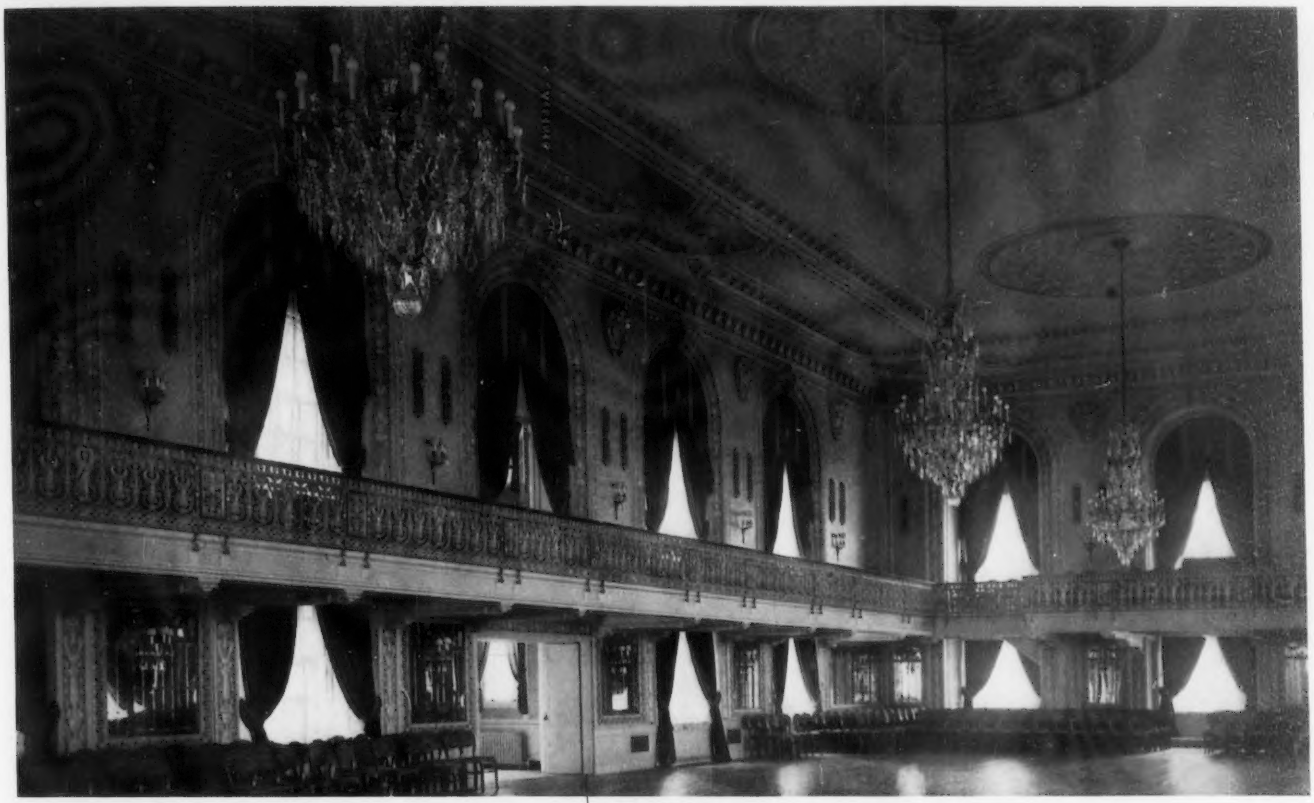
TYPICAL FLOOR PLAN WITH SUITES

TYPICAL BEDROOM FLOOR PLAN

DETAIL OF LOWER STORIES AND ENTRANCE

WILLIAM PENN HOTEL, PITTSBURGH, PA.

JANSSEN & ABBOTT, ARCHITECTS



BALLROOM

ITALIAN DINING ROOM

WILLIAM PENN HOTEL, PITTSBURGH, PA.

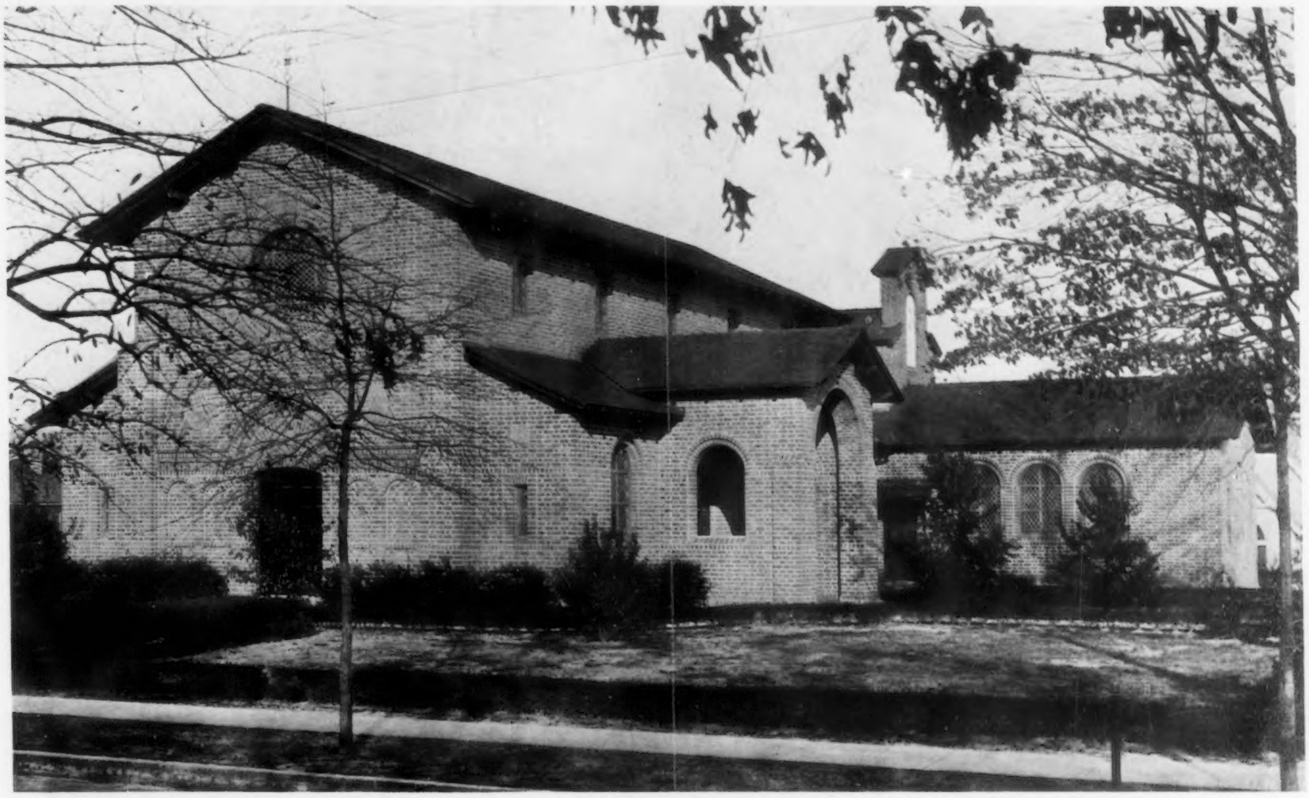
JANSSEN & ABBOTT, ARCHITECTS

ENTRANCE TO GEORGIAN DINING ROOM

ENTRANCE TO VESTIBULE FROM LOBBY

WILLIAM PENN HOTEL, PITTSBURGH, PA.

JANSSEN & ABBOTT, ARCHITECTS

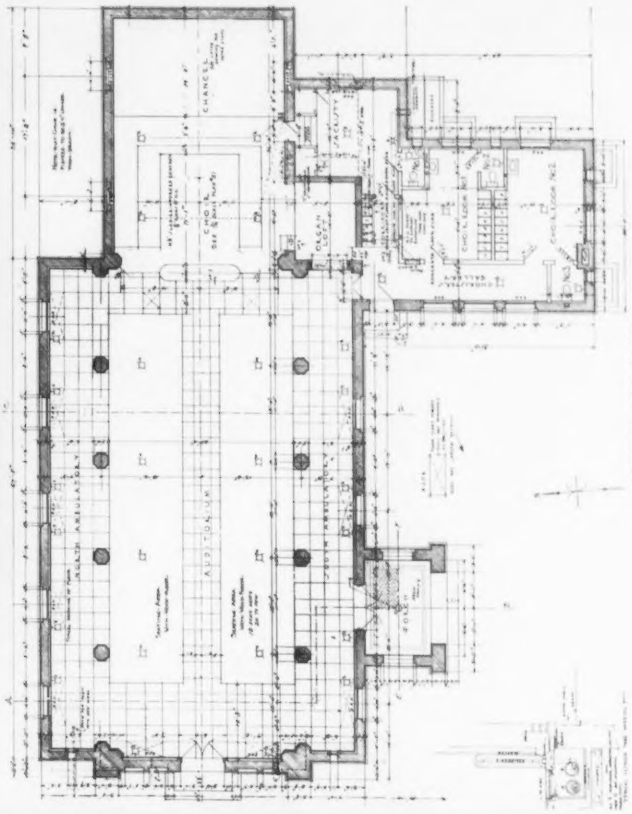


GENERAL VIEW

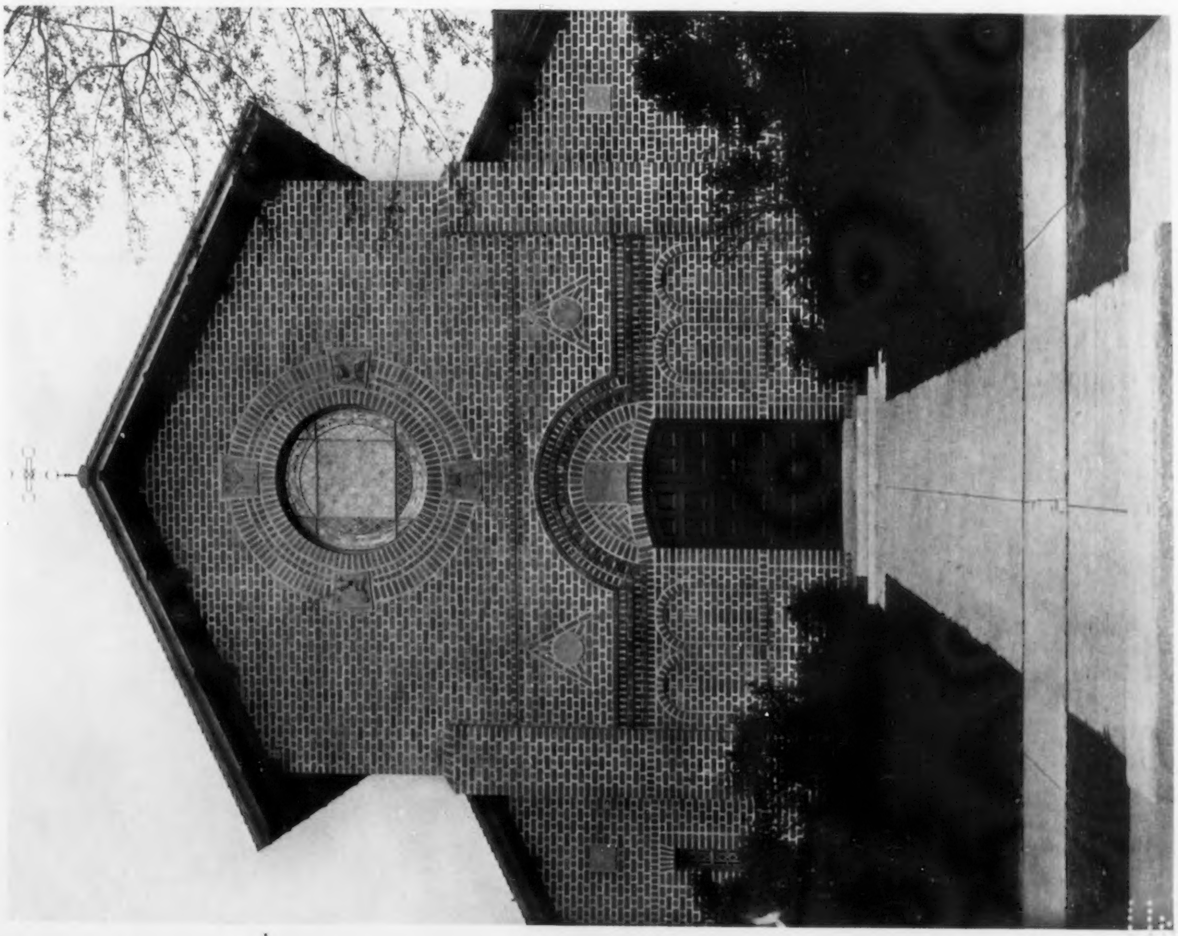
INTERIOR LOOKING TOWARD CHANCEL

ST. JOHN'S EPISCOPAL CHURCH, LAUREL, MISS.

FRANK ARNOLD COLBY, ARCHITECT



FIRST FLOOR PLAN

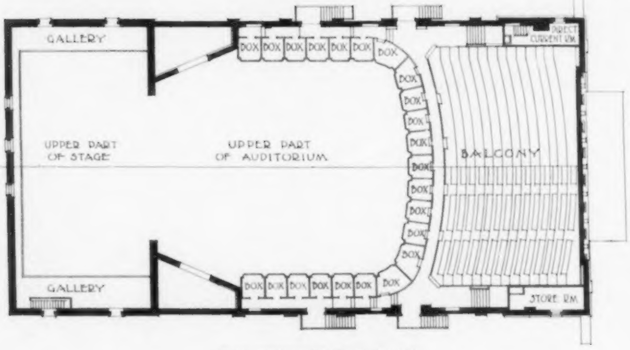


DETAIL OF PRINCIPAL FACADE

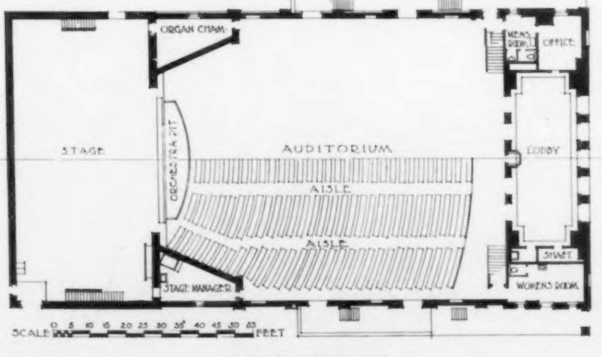
ST. JOHN'S EPISCOPAL CHURCH, LAUREL, MISS.

FRANK ARNOLD COLBY, ARCHITECT

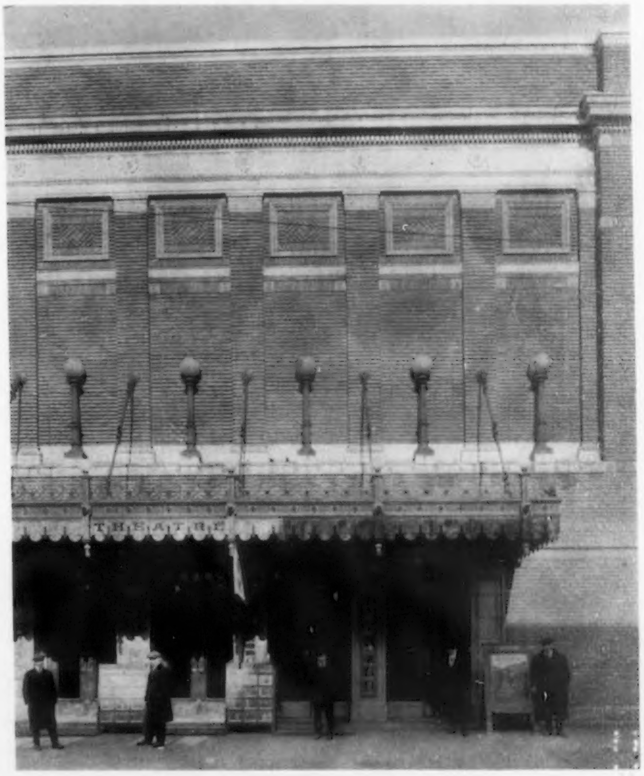
GENERAL VIEW OF FACADE



BALCONY FLOOR PLAN



FIRST FLOOR PLAN

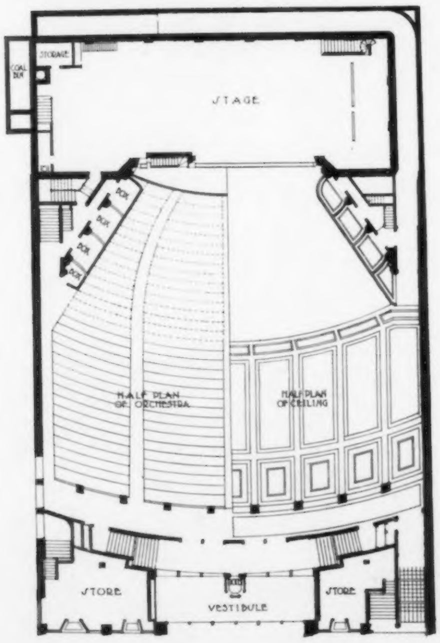


DETAIL OF FACADE

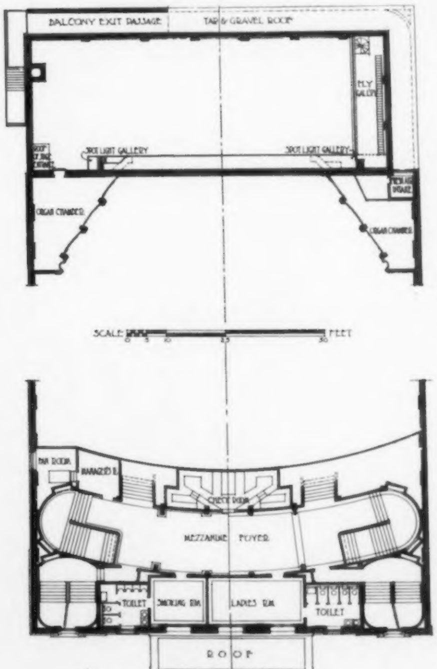
MOVING PICTURE THEATER, UTICA, N. Y.

GREEN & WICKS, ARCHITECTS

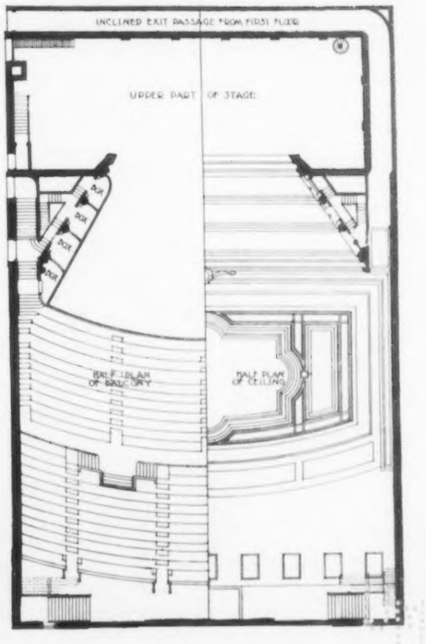
GENERAL VIEW OF EXTERIOR



FIRST FLOOR PLAN



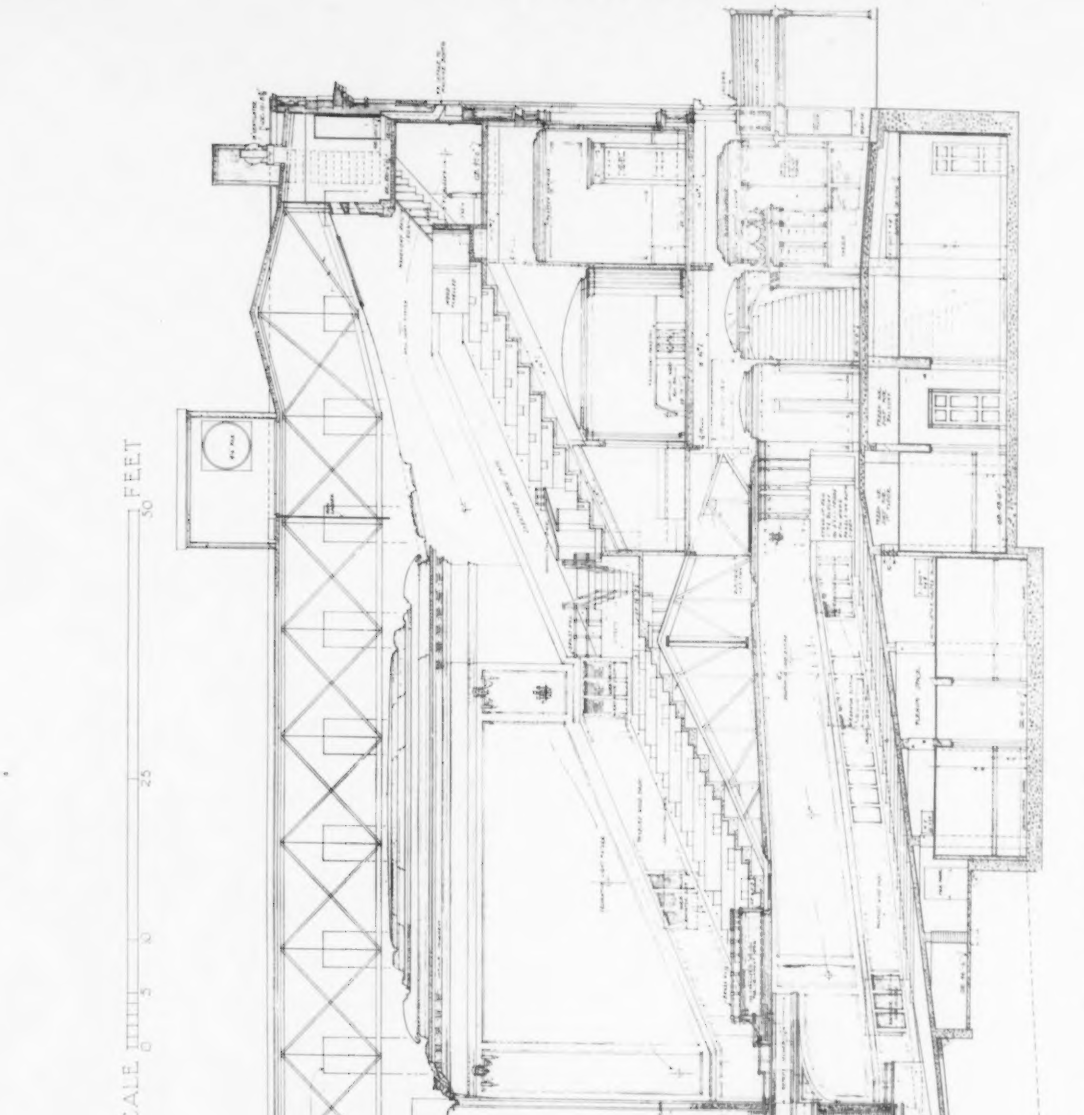
MEZZANINE FLOOR PLAN



BALCONY FLOOR PLAN

OLYMPIA THEATER, NEW BEDFORD, MASS.

WILLIAM L. MOWLL, ARCHITECT



LONGITUDINAL SECTION ON MAIN AXIS

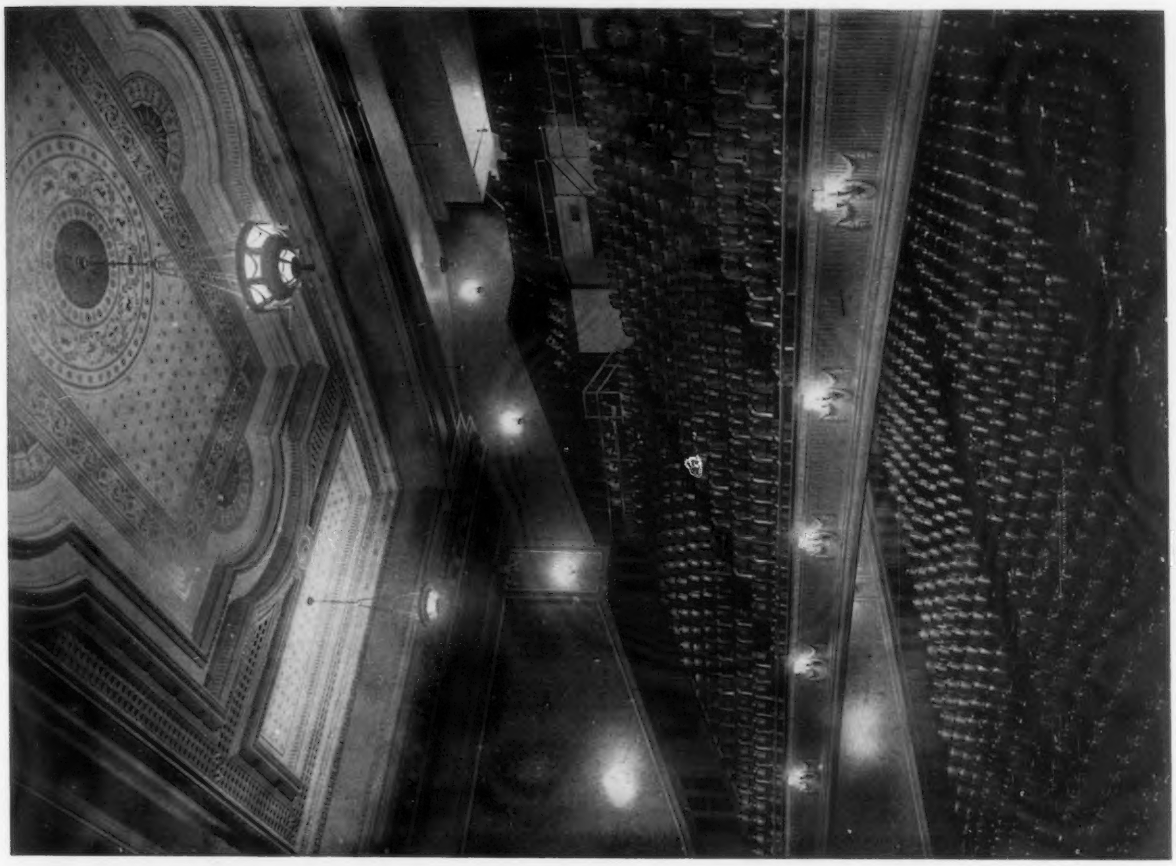
OLYMPIA THEATER, NEW BEDFORD, MASS.

WILLIAM L. MOWLL, ARCHITECT

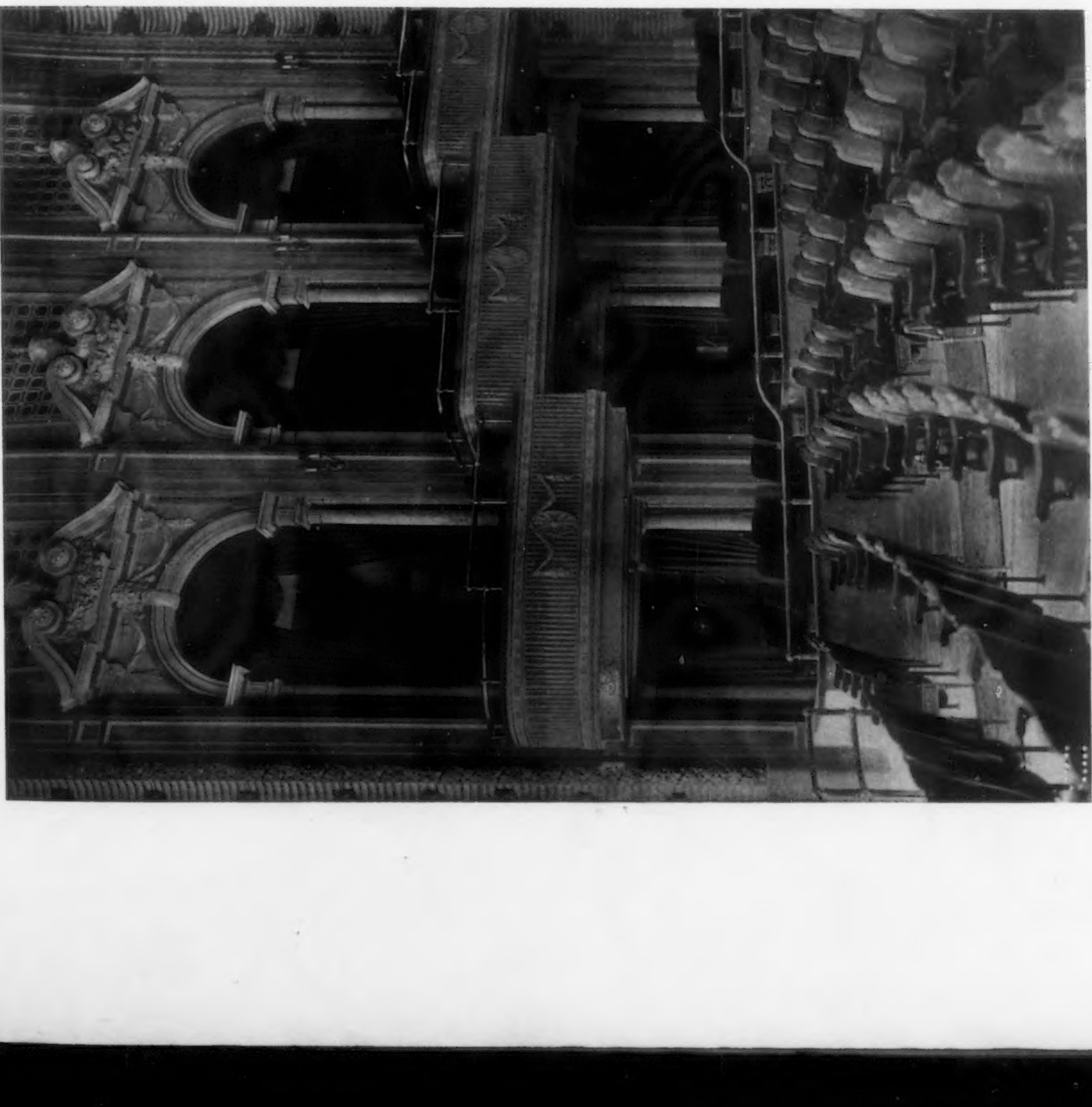
GENERAL VIEW OF INTERIOR FROM BALCONY

OLYMPIA THEATER, NEW BEDFORD, MASS.

WILLIAM L. MOWLL, ARCHITECT



VIEW OF BALCONY AND CEILING



DETAIL OF BOXES

OLYMPIA THEATER, NEW BEDFORD, MASS.

WILLIAM L. MOWLL, ARCHITECT

The Olympia Theater, New Bedford, Mass.

WILLIAM L. MOWLL, ARCHITECT.

View of Mezzanine Foyer

THE Olympia Theater is located on a lot, 100 by 163 feet, in the city of New Bedford, at the corner of Purchase and Elm streets. Purchase street on the front is nearly level; Elm street at the side rises from the front over 6 feet in the length of the building. The exterior of the building is built of white marble up to the belt course. Above this level the windows on the front are trimmed with marble and the lettering panel is marble. The remainder of the trim is of white matt glazed terra cotta and the body of the wall of water struck brick.

There are two small stores at the front of the building. The main entrance lobby is 40 feet wide, and beyond it is the stair lobby, with the main stairways at either side, to the mezzanine floor. On the orchestra floor there are thirty-two rows of seats with boxes at the front and a total seating capacity of about 1,400.

The balcony is reached by the main stairs to the mezzanine lobby. From this lobby open the retiring and toilet rooms, which are lighted by the large windows on the front of the building. The balcony is entered through two vomitories, which arrive at a cross aisle. This cross aisle feeds five aisles for the front portion of the balcony and four for the back, and is so arranged as to level that people using the cross aisle are below the sight lines of people sitting back of the cross aisle. It will be noted that these vomitories are placed with relation to the aisles in such a manner as to secure the most rapid distribution of those entering with the least amount of distance to be traversed. The balcony was designed with level rows of seats, which avoids the common difficulty of the tipping of the seats in the front rows at the corners of the balcony. The sight lines have been arranged so that every seat in the house commands an undisturbed view of the stage.

The general design of the auditorium was arranged for acoustic quality with the result that not only is it possible to hear well in the back row, 110 feet from the front of the stage, but also that in spite of the very deep overhang of the balcony (41 feet) there are no spots in the auditorium where it is in the slightest degree difficult to hear.

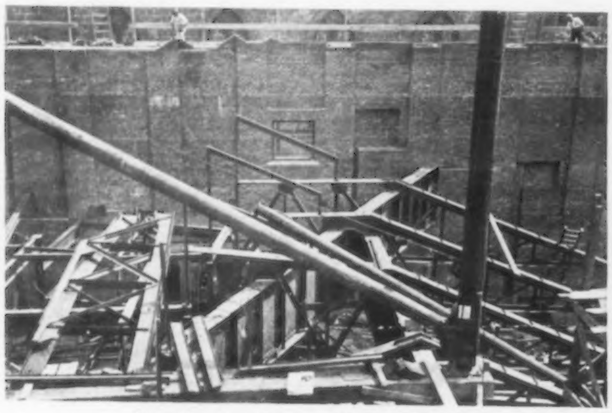
The exits have a somewhat unusual arrangement, due to the lot lines and grades. It should be observed that the passageway usually required by law, at the lot-line side of the auditorium, has been omitted. At this side there is an exit directly to the street in front and a passageway entirely around the back of the stage. This arrangement replaces the outside passageway without the sacrifice of seating area. From the balcony, which seats about 1,100, making the total capacity of the house 2,500, there are six possible means of egress — two stairways at the back, the vomitories, and two exits from the front corners of the balcony.

The stage is completely equipped for any kind of a modern theatrical production, although this theater is intended for the usual pictures and vaudeville. There is a complete outfit of rigging, including dead lines and counterweights.

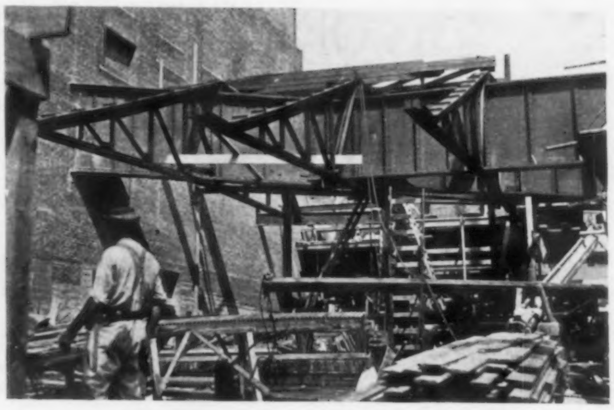
The proscenium opening is 44 feet in width and 32 feet in height. Scenery is taken into the building by means of an incline from Elm street, which at this point is considerably above the stage level. The electrical equipment includes a very complete closed front switchboard, five borders, and a supplementary footlight in the center to ensure the satisfactory lighting of the center of the very wide proscenium opening. This center lighting is further supplemented by flood lights arranged under the front balcony boxes.

The basement under the stage has a boiler plant and property rooms. Under the auditorium are the dressing rooms, with every provision made for the comfort of the performers, including shower baths in the toilet rooms. The front portion of the basement contains manager's room, ushers' rooms, and so on, and retiring and toilet and check rooms. The heating and ventilating plant is most complete. The air is taken into the building over the roof of an exit passageway, passes through the heating coil and an air washer, and is introduced into the auditorium through

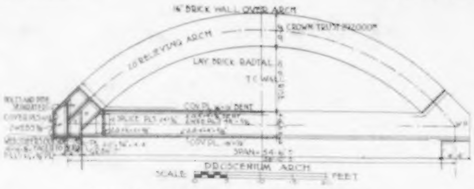
View of Vestibule



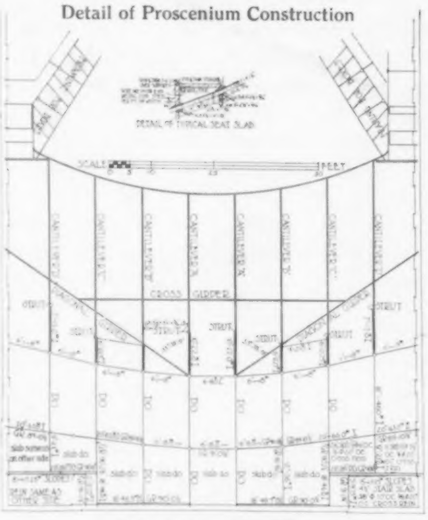
View Looking Down on Balcony Girders



View Showing Cantilever Balcony Trusses



Detail of Proscenium Construction

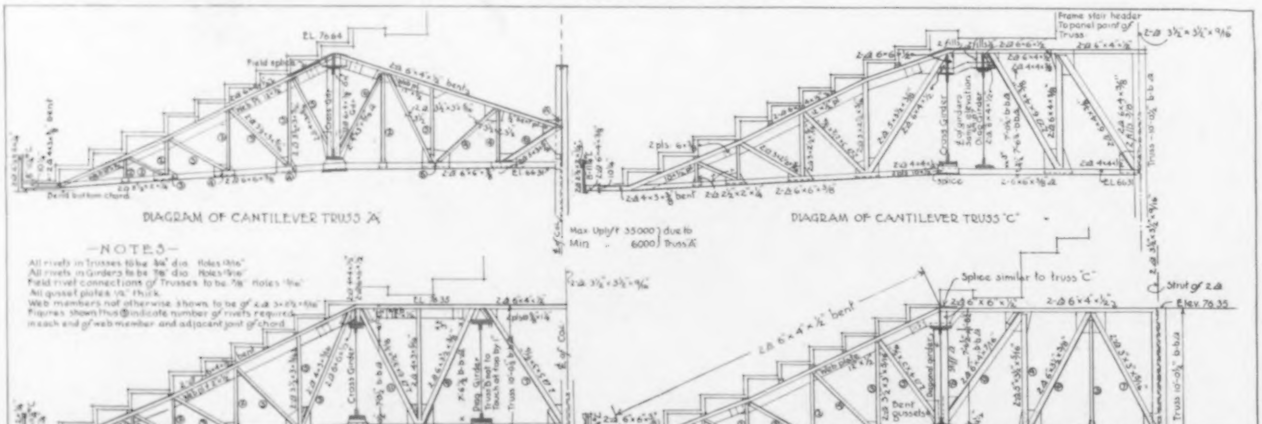


Balcony Framing Plan

1,400 chair-leg ventilators distributed through the orchestra and balcony floors.

The picture booth is hung from the roof trusses against the front wall of the building. It is unusually large and contains two motor-driven picture machines of the latest type and the spot-light apparatus, together with the necessary electrical equipment, work bench, etc.

The building is of first-class construction throughout. The orchestra floor is of reinforced concrete carried on brick walls and concrete piers. The main walls of the building carry the roof trusses without steel columns. The balcony construction is somewhat unusual, as its very low pitch and considerable overhang did not provide depth enough for a girder 100 feet long to carry the cantilevers. As shown in the diagram of the framing plan and the illustrations of this construction, two diagonal girders start from the two center columns at the back of the orchestra and run to the side walls, where they are carried on steel columns. Between these girders a cross girder is framed, and the cantilevers are carried on the diagonals and on this cross girder, thus making it possible to entirely avoid columns in the seating space. On this construction are the usual concrete treads and risers. Another detail of interest is the proscenium construction shown above in diagram. By the use of a brick relieving arch, the thrust of which is taken up by the steel built into the piers, the use of a deep girder was eliminated. The cost of the building completely equipped was about 22 cents per cubic foot.

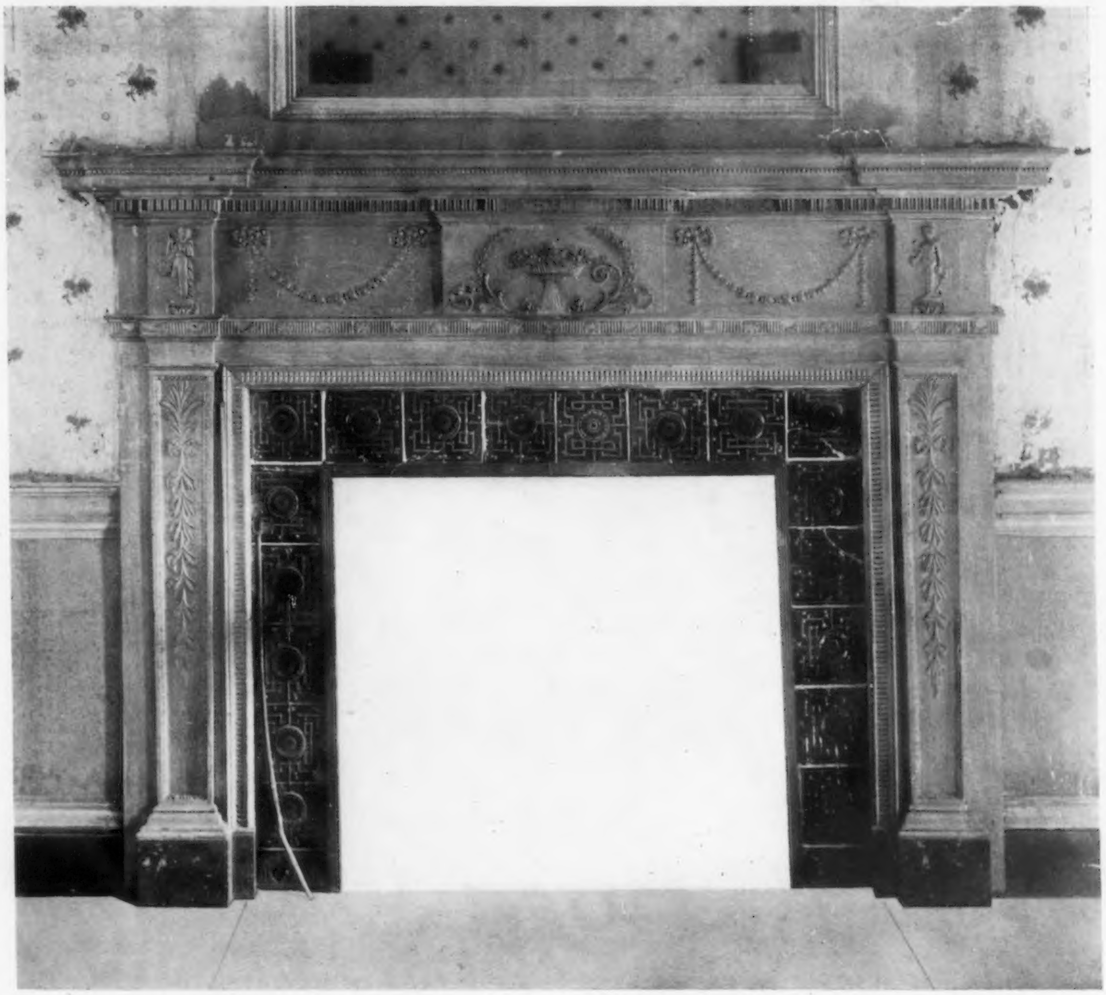


Detail of Balcony Cantilever Trusses

THE BRICKBVILDER COLLECTION OF

EARLY AMERICAN ARCHITECTURAL DETAILS.

PLATE TWENTY-FIVE.



A FEW hundred yards to the east of "Homewood," the house built by Charles Carroll in 1804, lies "Hunington," another famous southern house. Built about 1800 by James Wilson, it was the center of social activity in the early part of the century; but in late years it has fallen into decay, and will be torn down shortly to make room for rows of modern speculative houses. The delicacy and refinement of the detail that was used in this house is exceptionally well displayed on the mantel reproduced herewith.

Although all the surfaces are ornamented, there is no suggestion of the work being overdone. From the fact that some of the ornament on the mantel is found on work of an earlier date, one is led to believe that the house is older than is generally supposed. With the exception of this mantel, there is now little of interest in the house.

MANTEL IN "HUNINGTON," BALTIMORE, MD.

Built in 1800.

MEASURED DRAWING ON FOLLOWING PAGE.

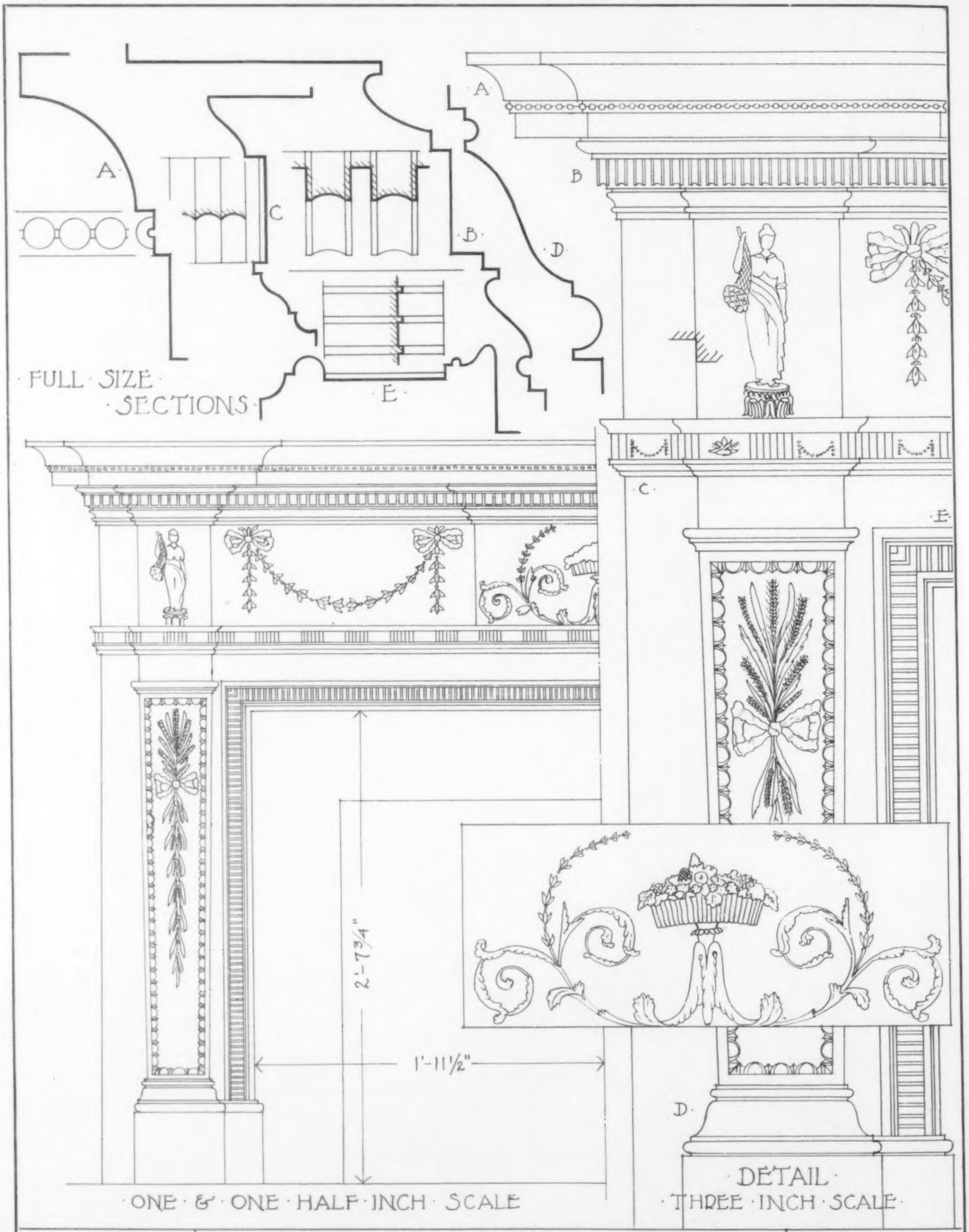


PLATE 25 JULY 1916	·MANTEL·IN·HUNINGTON· BUILT·1800· ·BALTIMORE·MD·	·MEASURED·& DRAWN·BY· ·RIGGIN·BUCKLER

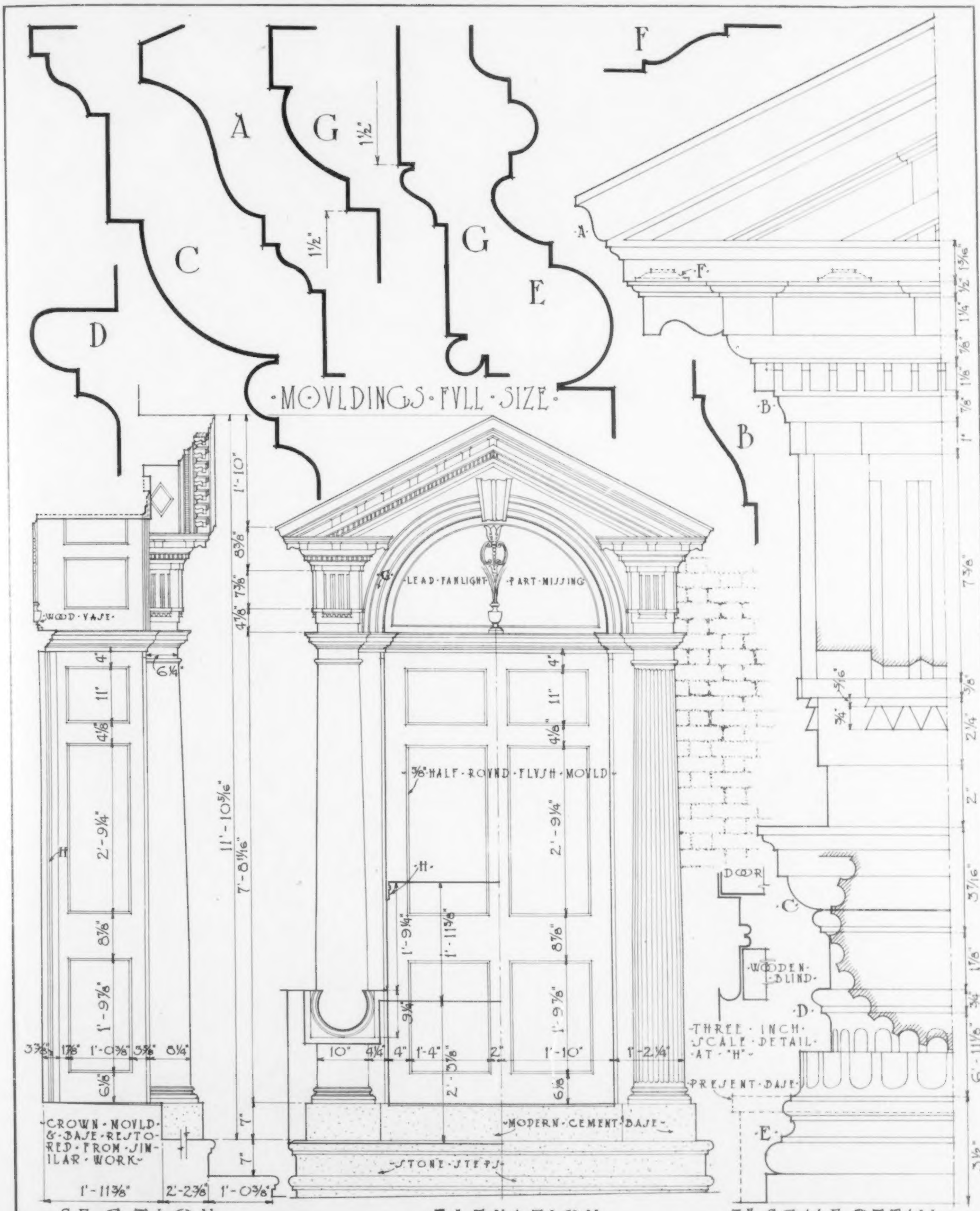


PLATE 26 JVLY 1916	·DOORWAY~114·S·FAIRFAX·STREET· ·ALEXANDRIA·VA· ·DATE·ABOVT·1796· ·ARCHT·VNKNOWN·	·MEASVRED·&·DRAWN·BY· ·J·L·KEISTER·· O·J· ·MVNSON·&·J·A·WEBER·

PLATE TWENTY-SIX.

THIS elaborate doorway delights the eye with its perfect proportions and delicate mouldings. Note the daring manner in which the cornice bed-moulds have been brought out to the face of the column to show a wide soffit with a diamond shaped panel. The effect of the remaining ornament in the transom seems enhanced by the loss of the scrolls from either side.

DOORWAY, 114 SOUTH FAIRFAX STREET, ALEXANDRIA, VA.

Built about 1746.

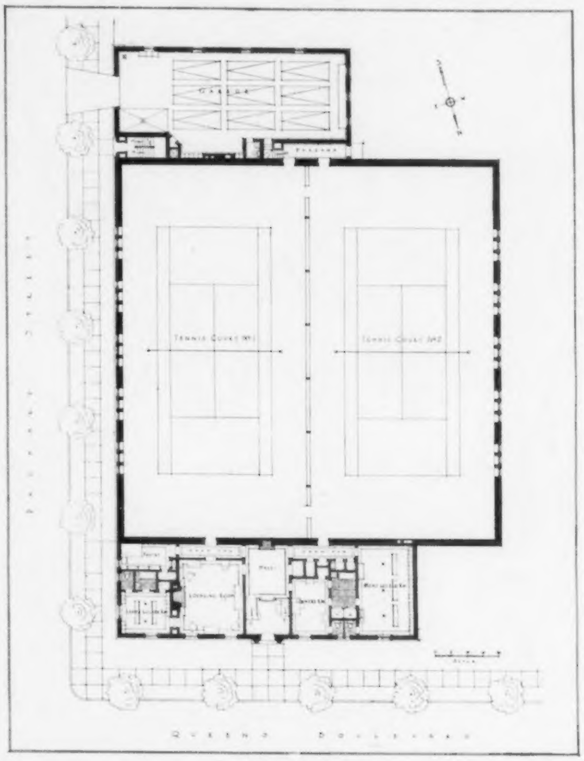
MEASURED DRAWING ON PRECEDING PAGE.

Enclosed Tennis Court Buildings.

By WALTER D. BLAIR.

IN recent years the tennis champions of the Pacific Coast have defeated the best players of the East. This result has been partly attributed to the fact that on the Pacific Coast tennis is played during the twelve months of the year. To overcome the difficulties of winter climate, the writer has recently, upon three occasions, been commissioned by tennis enthusiasts to build covered tennis courts in which tennis could be played irrespective of rain, snow, or frost.

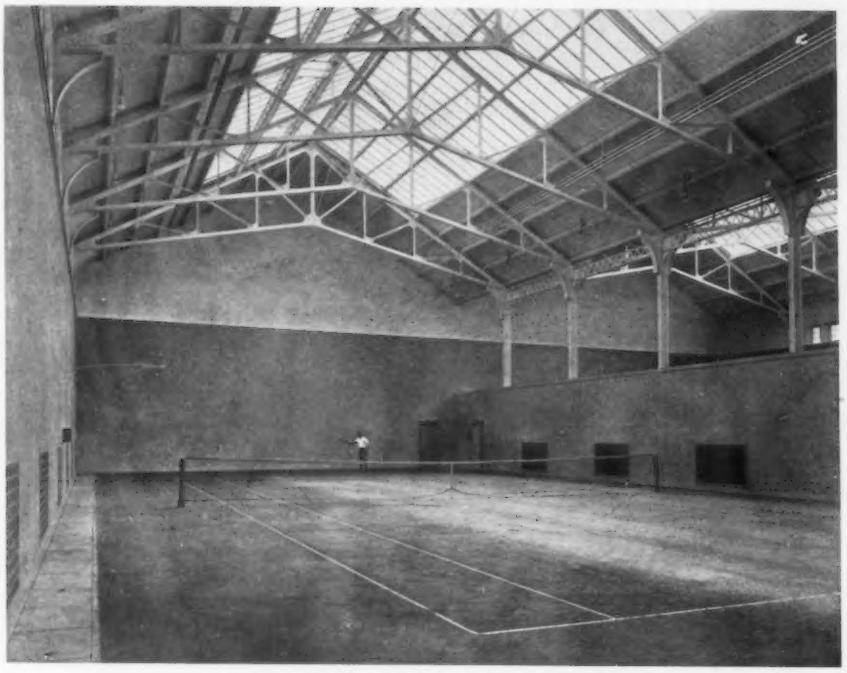
As the problem is elementary in its simplicity, the building of the Pastime Tennis Company, located in New York City, has been selected to illustrate the solution. The construction of such a building is not confined to this particular type, however, as evidenced by two other buildings recently erected. In one at Jekyl Island, New York, the roof trusses are of wood, the exterior walls of brick with stucco exterior surface, and the roof hipped so as to make the structure as low as possible. A second building, located at Mt. Kisco, New York, is situated in a wooded section and is entirely of frame construction, with shingle exterior stained green, and doors, cornice, and window trims painted white. The building illustrated herewith occupies a city lot and is built to the street line. Its roof trusses are of steel, the exterior of brick and limestone, and the interior walls furred with terra cotta tile and covered with cement stucco, troweled smooth.



Main Floor Plan

Enclosed Tennis Courts Building, Queens Boulevard, Long Island, N. Y.

Walter D. Blair, Architect



View of Interior, Showing One Court

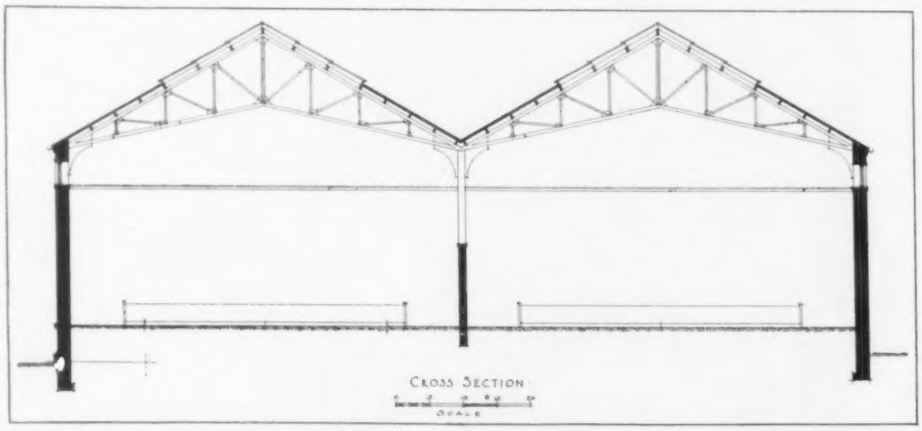
strain, which is always present when one plays outdoors on account of the excessive light. At Jekyl Island, where the atmosphere is without any smoke and the sun directly overhead, the skylights have an area in section of 1,092 square feet; at Mt. Kisco the area is 1,734 square feet; and in the building illustrated, where the atmosphere is darkened by city conditions, the area is 2,856 square feet.

The interior walls of the latter building up to a height of 21 feet are painted a gray green, and above that level the walls, ceiling, trusses, and all other surfaces are painted a light gray. The court itself is built of an English clay, which has the merit of never packing so hard that a cut ball loses its break. Ordinary American clay can, of course, be used, and will give the hard, fast surface

In playing tennis indoors the players should not be conscious of the enclosing walls and roof. To accomplish this result 10 feet in the clear beyond the side lines, although 11 feet is better, and 20 feet back of the base line are sufficient. This gives a room 56 by 118 feet. In the first of the buildings mentioned the spring of the roof trusses was placed 26 feet above the court and the bottom chord of the truss inclined upward 7 feet, so that over the center of the court there was a clear height of 33 feet. This was found amply sufficient for lobbing, and these dimensions were not increased in the later buildings.

In each of the buildings ventilation is given by windows on the side above the line of vision and by movable sections of the skylights.

The lighting should be from overhead and abundant, so arranged that the effect is similar to playing outdoors on a gray day. One of the unexpected results of these buildings has been the absence of eye



Cross Section through Structure over Courts

Packard Street Elevation

Enclosed Tennis Courts Building, Queens Boulevard, Long Island, N. Y.

DETAIL OF MAIN ENTRANCE

ENCLOSED TENNIS COURTS BUILDING, QUEENS BOULEVARD, LONG ISLAND, N. Y.

WALTER D. BLAIR, ARCHITECT

that is familiar to all. It will not require as much watering or care as the English clay nor cost as much.

The court is marked by lead tapes which are fastened to the clay by long nails. The posts are removable and set in cast-iron sockets which are incased in concrete.

Heating is supplied by radiators recessed in the side walls and by coils under the skylights. The supply mains run around the outside walls in a heating trench which is covered with removable concrete slabs set flush with the court.

For artificial lighting an indirect system is undoubtedly the best, if the owner is willing to pay the extra cost of installation and maintenance. The underside of the roof can readily be designed to give the proper reflection surface. If direct lighting is used and the lights are placed at the roof level along the outside walls, the player will not be annoyingly conscious of the source of illumination.

As the number of rooms accompanying the tennis court—locker, shower, lounging, and service rooms—is dependent upon the particular demands of the owner, each building in this respect becomes a particular problem and no general suggestions concerning their arrangement or size can be made that will be applicable in all cases.

Doorway from Hall to Lounging Room

View in Lounging Room

Enclosed Tennis Courts Building, Queens Boulevard, Long Island, N. Y.

Competition for a One-Family House.

REPORT OF JURY OF AWARD AND PRESENTATION OF PRIZE AND MENTION DESIGNS.

AFTER careful consideration of the designs submitted, the judges of this competition have made the following awards:

The *first prize*, of $500, is awarded to W. L. Risley and James Perry Wilson, Newark, N. J.

The *second prize*, of $250, is awarded to William G. Rantoul, Boston, Mass.

The *third prize*, of $150, is awarded to Austin Whittlesey, New York, N. Y.

The *fourth prize*, of $100, is awarded to J. Ivan Dise, New York, N. Y.

Honorable Mention is given to George F. Blount and William J. Mooney, Boston, Mass., Alfred Cookman Cass, New York, N. Y., Antonio di Nardo, New York, N. Y., Erik Kaeyer, Yonkers, N. Y., E. J. Thole, Evansville, Ind., Lewis E. Welsh and J. Floyd Yewell, New York, N. Y.

In arriving at their decisions the judges gave first consideration (as required by the conditions) to the excellence of the design and its fitness to the material employed; and second, to the excellence of the plan. Accordingly, designs which relied for their effectiveness on a rational use of the prescribed material were in general preferred to those which derived their distinction or charm from other sources. On account of the limitation of cost (a paramount consideration), plans which were compact and with few angles were in general preferred over those which showed a tendency to "sprawl."

The judges questioned both the possibility and the advisability of building either of the side walls on the lot line, as in most cities there exist restrictions which limit this privilege; but as the conditions contained no prohibition, it was assumed that the competitor had a right thus to place his building if he chose.

The elements of charm, of unity, of harmony, were given a high value by the judges, because these are things which our small house architecture most conspicuously lacks. On the other hand, a straining for mere picturesqueness for its own sake was not encouraged.

The elements of *livableness* in the plans — that is, the presence of those factors which make for beauty and dignity, "sweetness and light" — were given a high value, because, again, this matter is not sufficiently considered in houses of this class. It was the opinion of the judges that this livableness could be achieved best by turning the face of the house to the garden rather than to the street, because so aspected it was assumed that no family could continually tolerate the sight of the usual American back yard; they would perforce make a garden of it — an outdoor living room. The judges were fully aware that in taking this view of the matter they were ignoring a well known fact of American psychology: that "the man on the street" — and the female of his species even more — loves the street. With them the joys of privacy give place to the desire to see everything that is going on.

THE FIRST PRIZE DESIGN. Because the design of Messrs. Risley & Wilson appeared to the judges to be the most complete embodiment of an ideal realized within the limits of the given conditions, it was awarded first prize. The house, they imagine, would be charming to look at and delightful to live in. It is a plan which conduces to "dignity" of living. A loggia for summer days, an ingle for winter nights, convenience, space, privacy — these factors all appear in the achieved result. The design is simple, direct, appropriate to the material, and withal distinguished and original. The authors have an evenly balanced talent; their house is well planned, well designed, and well presented.

Although the judges were unanimous in awarding Messrs. Risley & Wilson's design the first prize, they were keenly, even painfully, aware of all the easily anticipated criticisms launched by the unofficial juries in how many thousand drafting rooms where THE BRICKBUILDER punctually appears. And these juries the judges would address somewhat as follows, answering only a few of their objections:

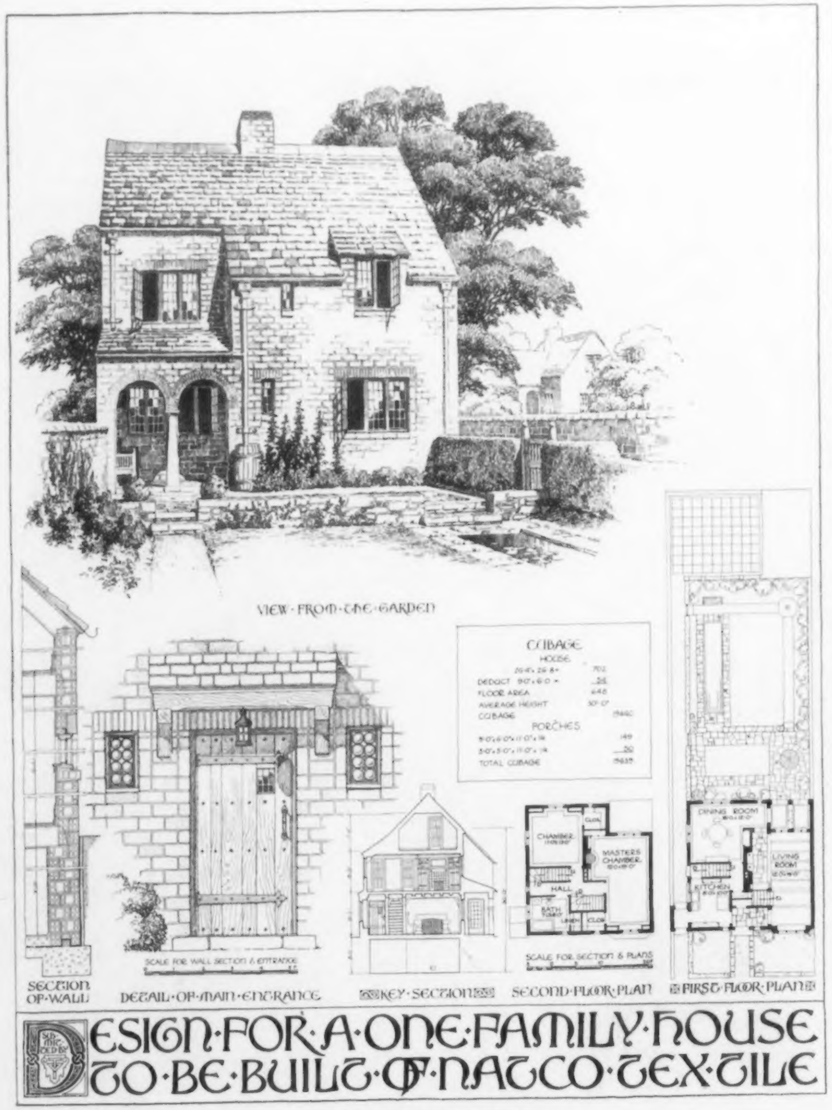
It is true that the successful prosecutors have given only a hint of the appearance of their house from the street, where it would be best and oftenest seen; yet a careful study of the plan would indicate that they have considered its street aspect, and with their unquestioned talent for design it is fair to assume that they could impart to the front an equal, though a different, beauty.

It is true that two stairways in a house of this size eat up valuable space, and yet the added privacy gained in this way is precious to persons given to the cultivation of the art of life.

It is true that only two bedrooms on the second floor presuppose the smallest of small families, and yet under the conditions such an assumption as this is permitted. What one finds it harder to forgive is that in the bigger bedroom there is no good place for a bed! Were the plan the paramount consideration in this competition, these matters would have loomed larger in the minds of the judges. What the prize winners have evidently aimed to do is to provide a habitation, not for the average, but for the exceptional individual, and in this, in the opinion of the judges, they were quite within their rights so long as they played the game according to rules.

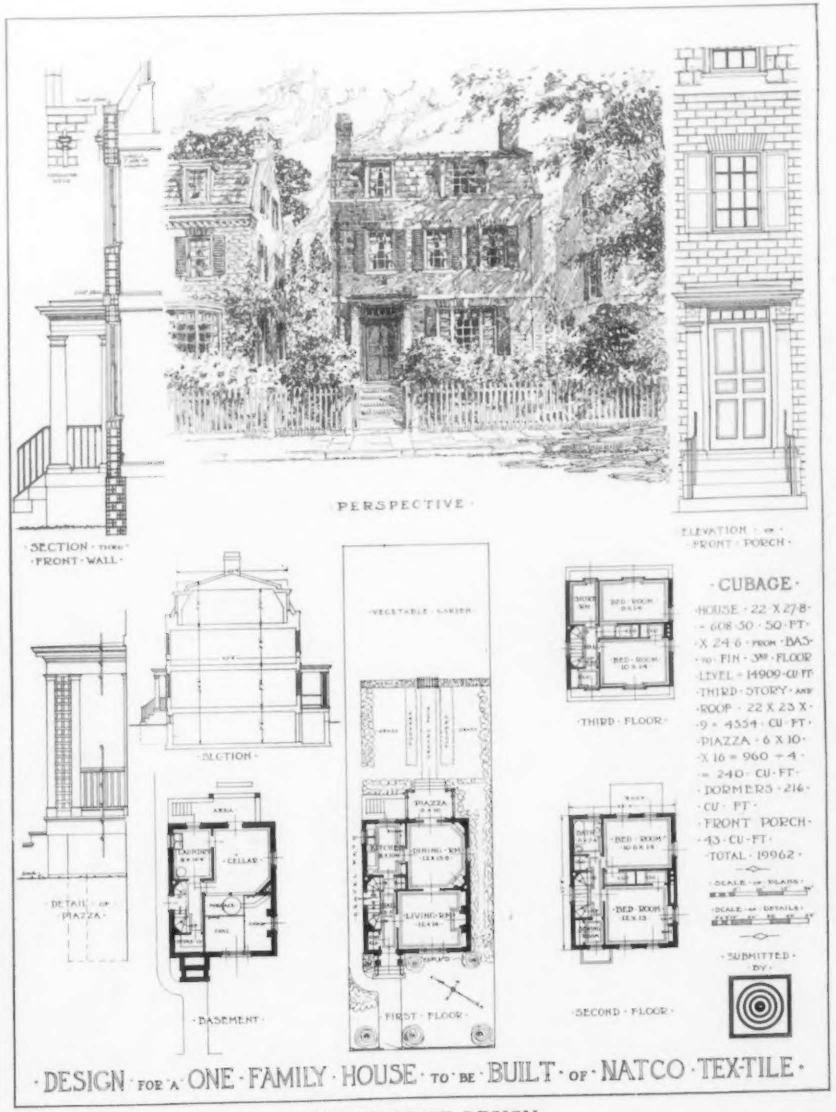
THE SECOND PRIZE DESIGN. Mr. Rantoul's design, treated in so different a spirit, has the high merit of perfect directness and consistency. The face which the little house presents to the street is frank and charming, and in a high degree expressive — expressive of the material, of the interior arrangement, and of a native grace and refinement.

Mr. Rantoul postulates for himself an entirely different sort of a client from that of Messrs. Risley & Wilson —



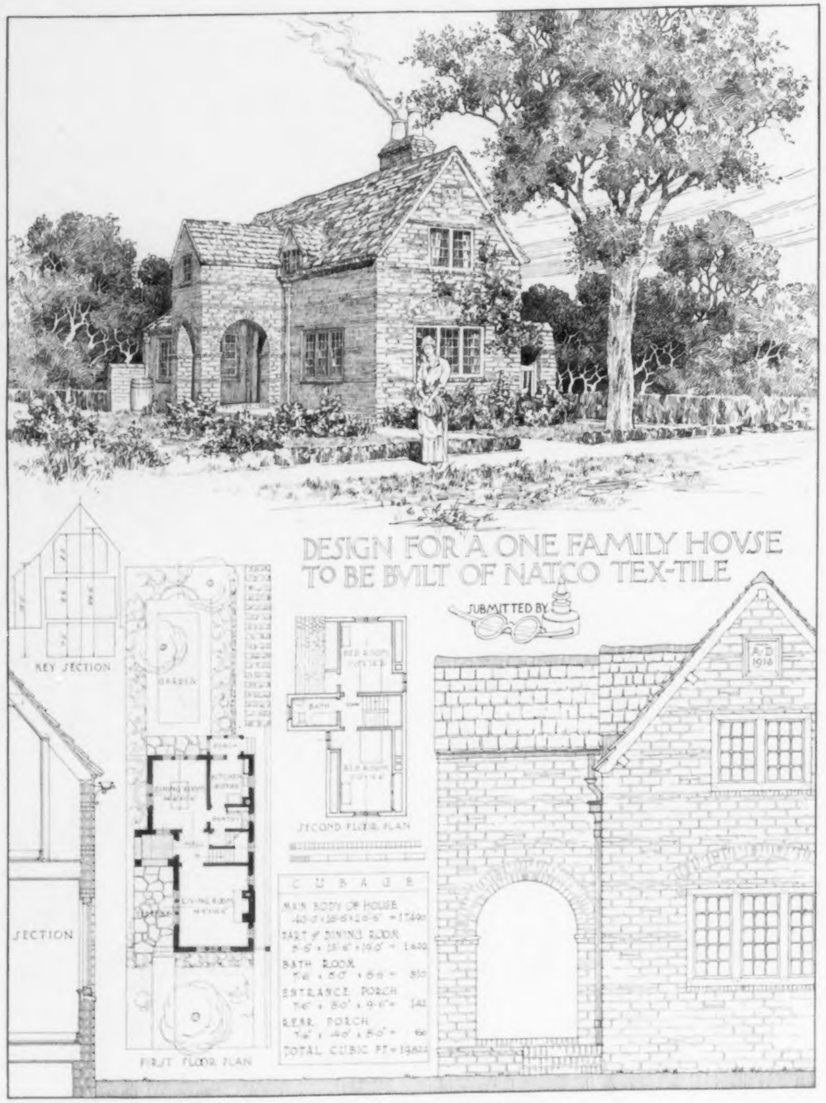
FIRST PRIZE DESIGN

SUBMITTED BY W. L. RISLEY AND JAMES PERRY WILSON, NEWARK, N. J.



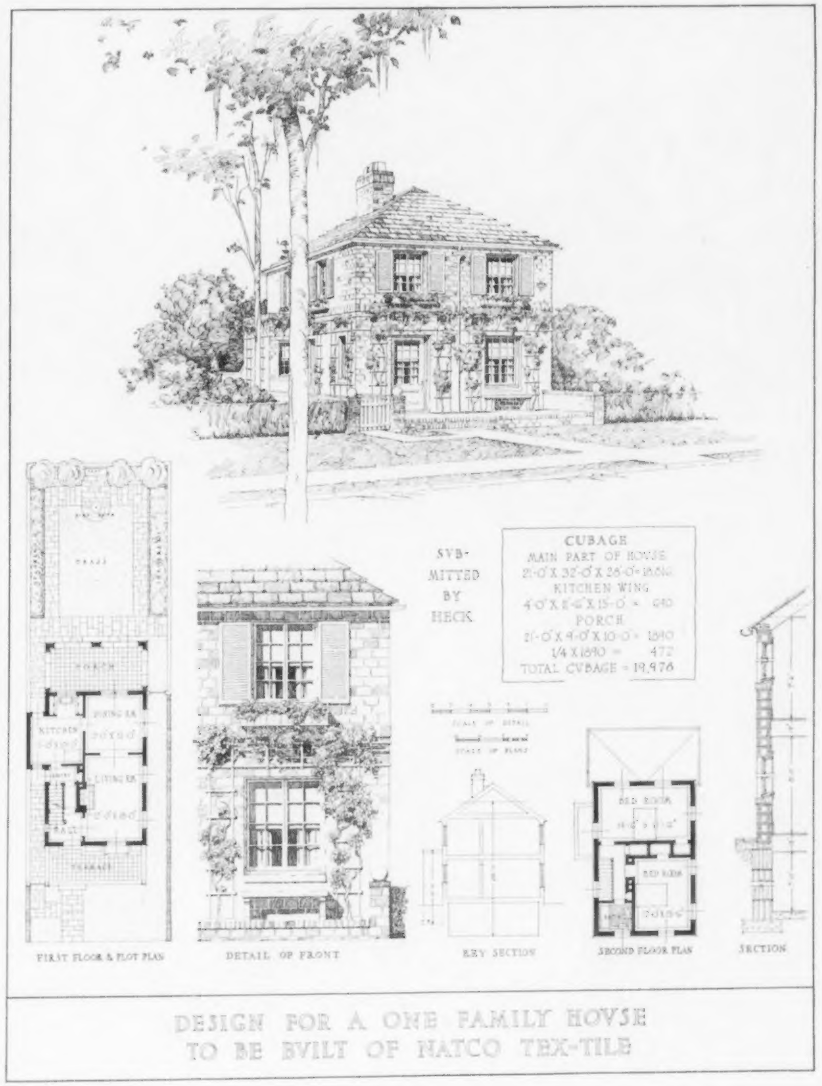
SECOND PRIZE DESIGN

SUBMITTED BY WILLIAM G. RANTOUL, BOSTON, MASS.



THIRD PRIZE DESIGN

SUBMITTED BY AUSTIN WHITTLESEY, NEW YORK, N. Y.



FOURTH PRIZE DESIGN

SUBMITTED BY J. IVAN DISE, NEW YORK, N. Y.

one who wants absolutely the most that can be got for the money, not in novelty and æsthetic interest, but in accommodation. Occupying less space on the ground than any of the other plans, it exceeds them all in the number of rooms. This is achieved by a vertical extension. It is a device of the highest economy, though fraught with perils for the designer. The facility with which these perils have been avoided in this instance proves his high competence. All the judges agreed to his title for second place. The stairway is a bit too cramped, and the living room too small for comfort. It would have been better to have omitted the fireplace in the dining room, and by a broad opening between it and the living room obtained a single large room susceptible of temporary subdivision for its double function.

The rendering of this design is extraordinarily competent and charming.

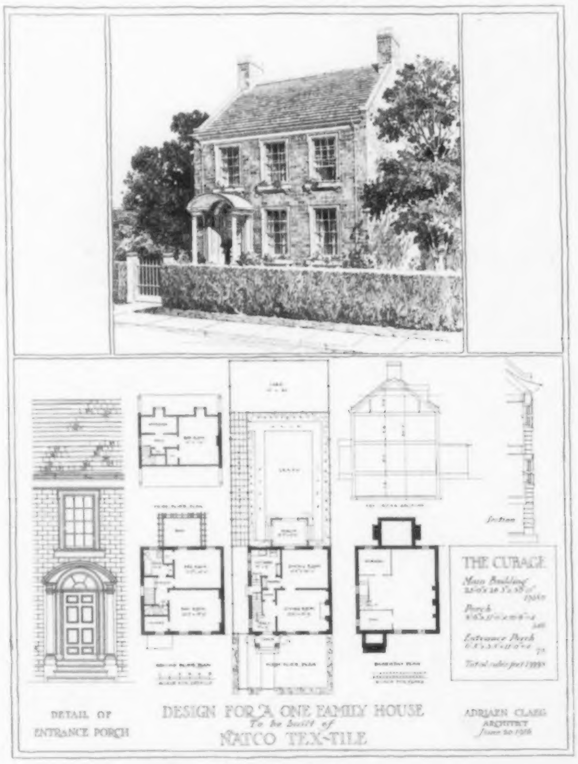
THE THIRD PRIZE DESIGN. Mr. Whittlesey's design has the merit of simplicity and domesticity, besides exhibiting an admirable sense of the proper handling of material. There is no applied ornament, and no need for any, the materials themselves being treated in so honest and so interesting a way. The position of the dormer in the valley is unfortunate and, as it happens, unnecessary; while in the northern latitudes the placing of the bathroom above the porch would probably impoverish the owner at the expense of the plumber. Too much space has been sacrificed in the bedrooms for the sake of the low studded effect. Another foot added to the height of the walls would not have harmed the design in the least. The arrangement of rooms is good, the rendering excellent, though such sylvan surroundings are scarcely warranted by the conditions which, by calling for a house on a thirty-foot lot, clearly imply a street of similar lots.

THE FOURTH PRIZE DESIGN. Mr. Dise's design is what may be described as a "usual" type, but somehow saves itself from being commonplace, nevertheless. One finds a certain satisfaction in its four-square façade, its low, untroubled brow, its open, candid eyes. The whole thing is another illustration of the adage, "An honest tale speeds best being plainly told."

The plan has the merit of economy and directness and the rendering is beautifully brilliant.

THE HONORABLE MENTION DESIGNS. The trim, prim, Georgian bijou by Mr. Cass would grace Pomander Walk itself. There is a lasting charm in this sort of thing which cannot be gainsaid. Under the conditions, however, it could not be given as high a place as those designs which depend less on detail and more on material and mass. In language, the untranslatable idiom is the most precious, and in architecture the same thing holds true. The merit of the prize designs — notably the first and third — consists in the fact that they are so evidently conceived in the prescribed material and no other, while Mr. Cass' house could be translated into shingle, stone, or stucco, without the change of a phrase.

The plan is economical and practical, though rather commonplace; the rendering is colorful, conveying a sense of reality seldom achieved in pen-and-ink work, because so difficult to achieve.



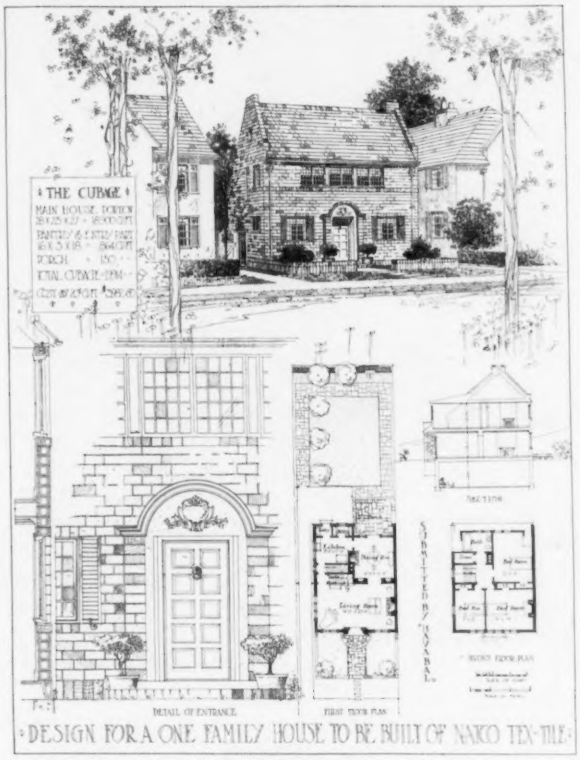
Mention Design
Submitted by Alfred Cookman Cass, New York, N. Y.

Mr. Kaeyer's design is better than appears at first glance; his rendering is singularly hard and without charm, and does the house rather less than justice. It is a thoroughly good solution of the problem, and the plan is in many respects the best among the ten here presented.

The design of Mr. Blount and Mr. Moody shows an intelligent use of material and a happy disposition of voids and solids. But in a village or city to plump from the street into the middle of the only living room is an intolerable sin against comfort and privacy. For summer places in the country, where drafts are welcome and visitors infrequent, this criticism loses something of its force, but it is not such a house we are considering in this competition.

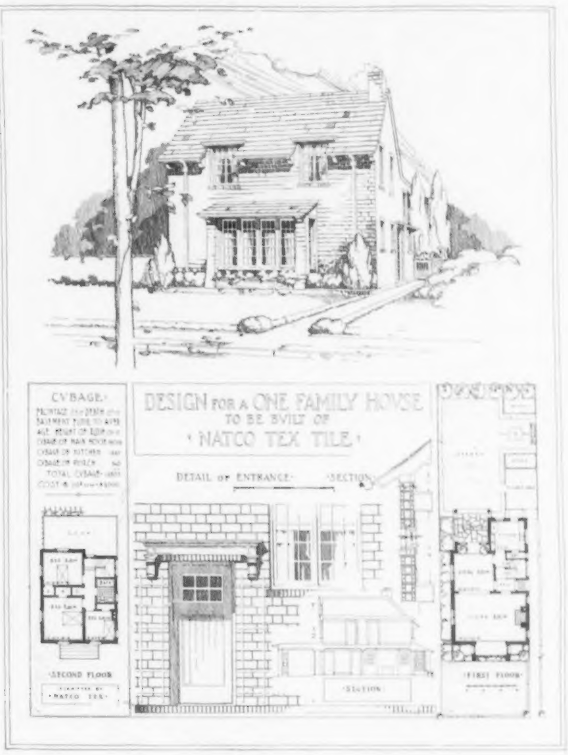
Mr. di Nardo's design is beautifully direct, simple, and harmonious. The plan is less admirable. The hall is larger in proportion than the size of the house warrants, the dining room is too narrow, and the placing of the house in the length of the lot has little to recommend it when one considers the probable location of the adjoining houses.

The design of Messrs. Welsh & Yewell is of such a seductive charm and picturesqueness that the judges had to sharpen their critical faculty to a fine edge to resist its blandishments; if the view had happened to be from the side not shown in perspective, it is clear that these would have been less. Justly or not, the judges came to feel that this house was designed too wholly with a view to its effect from the particular angle chosen, and that it depended too much upon its surroundings and accessories. Moreover, it is improbable to them that it could be built within the limit of cost. In imaginative quality, in feeling for line, mass, and proportion, the competition has nothing better to show; but as a practical solution of a practical problem this house could not be given as high a rank as the premiated designs.



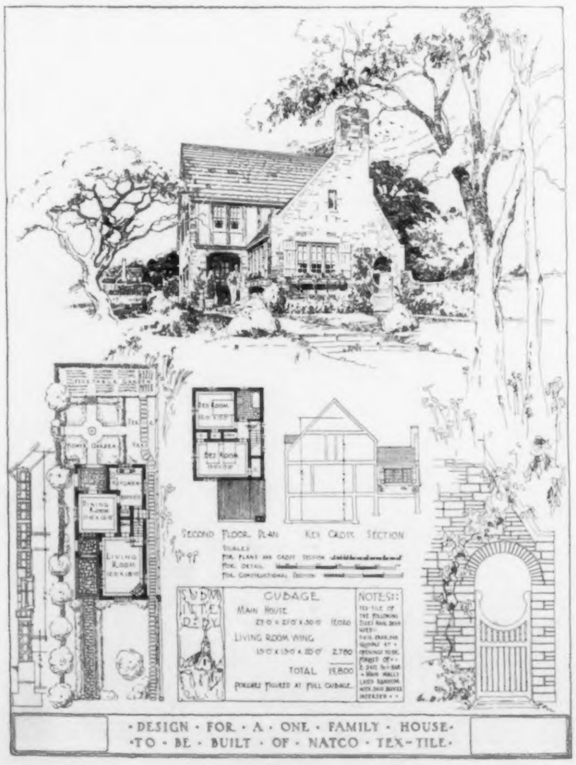
MENTION DESIGN

SUBMITTED BY GEORGE F. BLOUNT AND WILLIAM J. MOONEY
BOSTON, MASS.



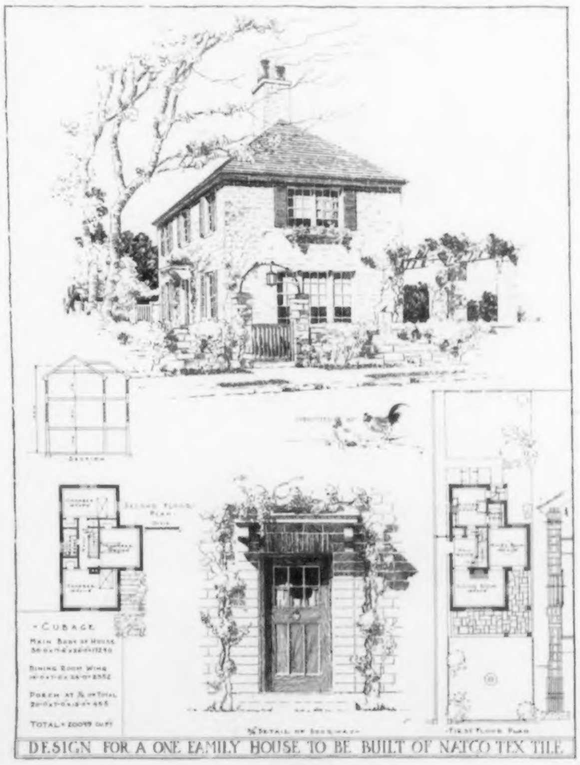
MENTION DESIGN

SUBMITTED BY ERIK KAEYER, YONKERS, N. Y.



MENTION DESIGN

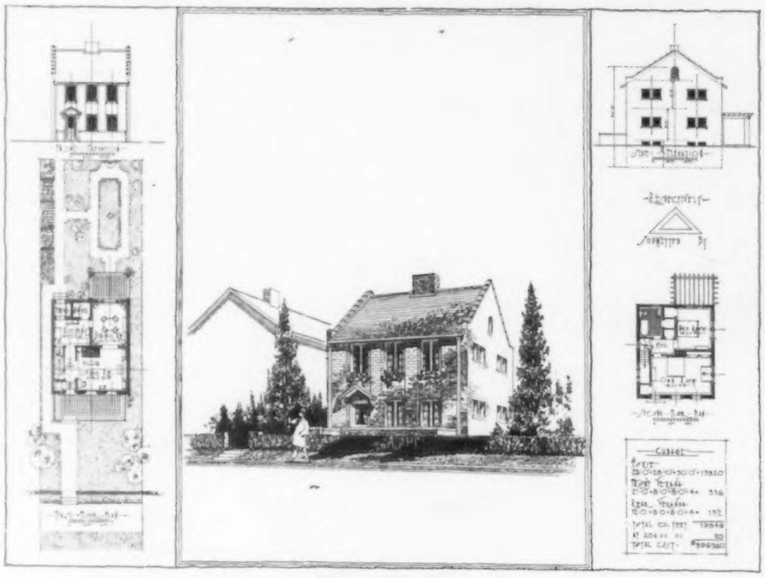
SUBMITTED BY LEWIS E. WELSH AND J. FLOYD YEWELL
NEW YORK, N. Y.



MENTION DESIGN

SUBMITTED BY ANTONIO DI NARDO, NEW YORK, N. Y.

Mr. Thole's design is, on the whole, so admirable that one wishes he had given a little more study to the pediment over the entrance door, which is somehow painfully *malapropos*. The side, too, seems different in character from the front. Yet, despite these blemishes, Mr. Thole's design shows a grasp of the essentials of his problem, and his place in the honor list is well deserved. The rendering is skilful; if a bit uncertain where to leave off, the author at least has shown in his drawing that he knew the value in pen-and-ink work of blank spaces and strong shadows.



Mention Design
Submitted by E. J. Thole, Evansville, Ind.

In conclusion, the judges desire to express to the competitors their regret that in the mass of material submitted the many flashes of felicity, the many excellences of achievement, should have to pass unnoted in this report. To the publishers they desire to extend their thanks and felicitations on the management of the competition: and to the company, which made the competition possible, they wish to express their appreciation of a policy which not only encourages effort and develops talent among architectural draftsmen, but which conduces to better living conditions throughout the land.

CLAUDE BRAGDON, Rochester, ALFRED BUSSELLE, New York, CHARLES HERRICK HAMMOND, Chicago, WILLIAM GRAY PURCELL, Minneapolis, ERNEST JOHN RUSSELL, St. Louis,

Jury of Award.

VIEW OF BALLROOM FLOOR LOBBY

VIEW OF BALLROOM FLOOR RECEPTION ROOM

WILLIAM PENN HOTEL, PITTSBURGH, PA.
JANSSEN & ABBOTT, ARCHITECTS

PLATE DESCRIPTION.

NEEDHAM PUBLIC LIBRARY, NEEDHAM, MASS. PLATES 97–101. This library building replaces two smaller libraries maintained in separate parts of the town and is situated in a central location to serve the interests of the citizens formerly provided for by the two.

The foundation walls are of concrete below grade with cast stone exterior surface above grade, including the entrance steps. The exposed surfaces are fine crandalled, closely resembling cut granite. The water table, panels under the windows, which are modeled to represent the seals of important modern publishers, the arch stones, etc., are of Vermont marble. The cornice is white painted wood as is also the entrance doorway ; the roof is slate.

The woodwork throughout the interior is white pine, painted with five coats and rubbed down to an egg-shell gloss, and the floors are of oak. The furniture with the exception of the library stacks and lighting fixtures was designed by the architect.

WILLIAM PENN HOTEL, PITTSBURGH, PA. PLATES 102–105. The William Penn Hotel is bounded by William Penn place on the north, Sixth avenue on the east, and Oliver avenue on the west, with frontages of 216, 130, and 130 feet, respectively. The plan is in the shape of a letter E with the two courts opening on William Penn place. The location is a central one, but the streets are so narrow that it is not possible to obtain a photograph of the entire building. The reproduction of the rendered perspective furnishes a good impression of the completed building, however. The body of the building is faced with brick with terra cotta trim, the upper floors and cornice having an elaborate and dignified treatment in terra cotta. The lower floors are of Indiana limestone with terra cotta for the decoration of the window reveals.

The principal feature of the ground floor of the hotel is the large lobby, which is entered directly through a vestibule from William Penn place. To the right as one enters the lobby is the Georgian dining room and to the left the main or Italian dining room, each of these rooms being separated from the main lobby by glass screens so that there is a fine sense of openness on this floor. The elevator hall is directly opposite the main entrance to the lobby and gives access to two banks of elevators, three on each side. The clerks' office, cashier's desk, parcel checkroom, and similar offices are located in the immediate vicinity of the elevators.

Surrounding the lobby is a mezzanine floor, the front portion of which forms a long promenade overlooking the main lobby and the Italian dining room. The rear of the floor is devoted mainly to the pastry rooms and kitchen, which brings this department in close connection with the principal dining rooms.

The next floor above, the plan of which is not shown, is occupied by a large parlor near the elevators and a large state suite in the east wing. The remainder of the floor is devoted to service departments and dining rooms for the employees, together with a number of guest rooms in the west wing.

There are two typical bedroom floor arrangements, both of which are reproduced on Plate 103, one with the service pantries from which the room service is given for three floors, including the one above and below, the other without the service pantry. There are five floors of the former type and in the wings on these floors a further variation is made from the typical floor to provide larger apartments than the average hotel suite.

The seventeenth floor contains the ballroom, together with a large reception room opposite the elevators and several private dining rooms with service hall in connection. The main elevators extend to the eighteenth floor and open on to a lobby which leads to the gallery of the ballroom. The kitchen service for the banquet rooms also occupies part of this floor.

A further dining room located in the basement is known as the Elizabethan room and is served by a special kitchen conveniently disposed in relation to it. Sub-basements provide space for such apartments as wineroom, storerooms, butcher shop, bake shop, vegetable room, storage refrigeration, vacuum cleaning, filtration, and ventilation plants.

The decoration of the hotel shows careful handling in all its details and demonstrates a further advance in giving American hotels a homelike character. The lobby is a room of great richness and dignity. The walls are paneled with French walnut and the ceiling, a reproduction of one at Fontainebleau, is richly decorated in red, gold, and brown. The Italian dining room, arranged three steps above the lobby floor, is similar in its decorative treatment to the lobby. Above the walnut panels in this room there is a deep frieze decorated with mural paintings, portraying the seasons. The illumination is effected by crystal chandeliers, wall brackets, and table lamps. The Georgian dining room is carried out with great simplicity in a light gray color. The ballroom, 125 feet long and 52 feet wide, seats five hundred on the floor and three hundred in the gallery. At one end of the room there is a disappearing stage. The room is decorated in white and the walls under the gallery are decorated with mirrors. The illumination is effected by crystal chandeliers and wall brackets. The Elizabethan room and the men's lounge in the basement are carried out in the style of the old English baronial halls. The walls are paneled in light oak and the ceilings are of decorated plaster with ornamentation appropriate to the architectural style. The floors of both rooms are of large black and white tiles.

The main kitchen, located in the rear of the mezzanine floor, is afforded an abundance of natural light and ventilation in addition to ample artificial ventilation, so that it is a comfortable-working apartment. In its relation to the dining rooms it follows the arrangement successfully worked out in the Blackstone Hotel in Chicago. The walls and counters are faced with white enamel brick. The floor is tile and all ranges, steam tables, refrigerators, etc., are placed on sanitary bases. The ceiling is furred down to enclose all overhead pipes, and care has been given to have no pipes exposed in the other parts of the room. The woodwork in all parts of the service portion is of walnut. Refrigerators are built with flush doors made air tight by means of a gasket which can be taken out and renewed.

EDITORIAL COMMENT AND NOTES FOR THE MONTH

THE sense of unpleasant relations and misunderstandings which have for a long time existed between the members of the United States Congress and the American Institute of Architects seems now to present a possibility of being removed. It is to be hoped that the signs that are now evident point to a mutual understanding between these bodies wherein Congress will recognize the value of the services the Institute can render in the building up of a proper architectural development of our national structures and show a willingness and wholesome desire to adopt a receptive mood for such services.

We are led to believe that such co-operation is not improbable because of the measure of success which has attended some recent work of the Institute. In a practical manner and with convincing proof it has called attention to the wasteful and extravagant policy pursued by the Government for many years in authorizing the erection of federal buildings in sections of the country where it was politically expedient to obtain them, regardless of the fact that other and more important federal building was entirely neglected. It has also been brought to the attention of Congress that the impoverished condition of the facilities of housing the Government departments in Washington is entirely needless. Officials have evidently been awakened to the tremendous waste that occurs annually for rental of privately owned buildings for Government uses, and there is now a sign of realization that the waste can be efficiently and economically remedied by the adoption of a policy that will ensure buildings to meet the purposes of the Government adequately and display that dignity so essential to the conduct of its business.

The immediate result of the effort is an amendment added by the Senate to the Sundry Civic Bill providing for a Public Building Commission to be composed of the Chairmen of Committees on Appropriations and Public Buildings of both branches of Congress, with two additional members from each committee to be appointed by the chairman, the Superintendent of the Capitol Building and Grounds, the Superintendent of Buildings and Grounds, and the Supervising Architect. The commission's work is the investigation of the public building situation in Washington; it is to complete its investigation and report to Congress by January, 1918, and is allowed $10,000 to cover the expenses involved.

This surely seems a step in the right direction and it is to be hoped that with a report setting forth the actual conditions Congress will see fit to take early and deliberate action to relieve one of the glaring inefficiencies in our national capital. With the conditions recognized, we may then hope for the adoption of a government policy that will acknowledge the value to the Government of the experienced and talented architects of the country to the end that federal buildings may be constructed to form a lasting monument to American architecture as well as provide well planned and equipped buildings for the efficient administration of government business.

The work of the commission just appointed should be followed by every architect and although its findings probably cannot be influenced one way or another by individual members of the profession, the outcome will have a strong interest for architects in general, and its report will undoubtedly have a large part in forming any future government policy in relation to federal building and the attitude of Congress toward the profession.

General recognition of the ethics governing the practice of law and medicine is now accorded the members of those professions, but it was only through their tireless efforts to formulate standards and then demand respect of them from others that has made this condition possible. The same holds true in the profession of architecture and it is hoped that the work which is now being done will lead to a fuller recognition of the ethics of the architectural profession by Congress and that harmonious and co-operative relations may be established between them.

BOOK NOTES.

GOTHIC ORNAMENTS SELECTED FROM VARIOUS ANCIENT BUILDINGS IN ENGLAND AND FRANCE. By Augustus Pugin. New and revised edition. Ill. 92 plates, $8\frac{1}{2}$x 11 inches. London, J. Tiranti & Co. $3.12. The work undertaken by Augustus Pugin in detailing and assembling the great variety of Medieval Gothic Ornaments in his collection is one of great value from an archæologic standpoint, and to all those interested in the study of Gothic architecture. To such this reprint will prove of great service, although in the light of modern thought in connection with the Gothic style the designer will probably prefer to make use of them as a source of inspiration rather than as exact models.

NIGHTS — IN ROME, VENICE, LONDON, AND PARIS. By Elizabeth Robins Pennell. Ill. Philadelphia, J. B. Lippincott Co. $3.00. To the architect who has traveled in Europe, or to him who entertains the hope of some day doing so,— and what architect does not? — a book which relates the fascinations of European travel has an interest. When to this promise of pleasure is added the charm of Joseph Pennell's etchings and the attraction of Mrs. Pennell's writings, a sense of delight is awakened. The present book has, however, more particularly to do with people than with travel; it brings to the reader intimate scenes that happened in these cities among persons who have contributed to the world's treasure of art and literature, not during their working hours of the day, but in their hours of relaxation at night, when their thoughts were freely exchanged and their true personalities divulged.